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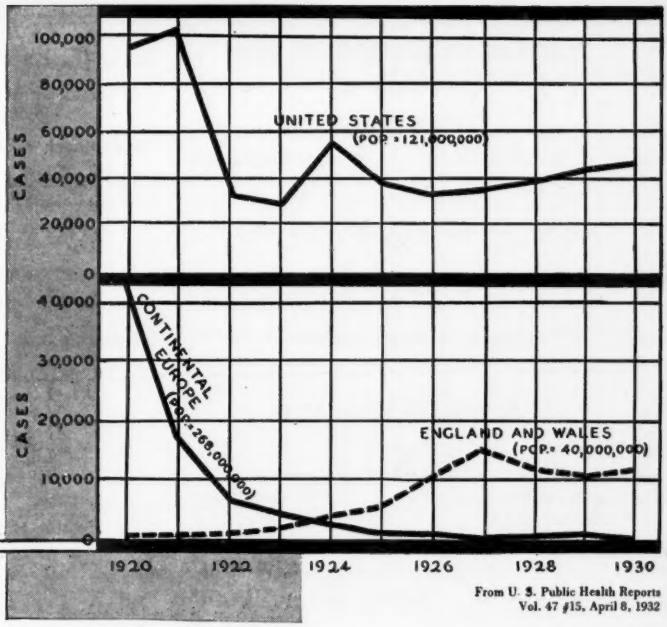

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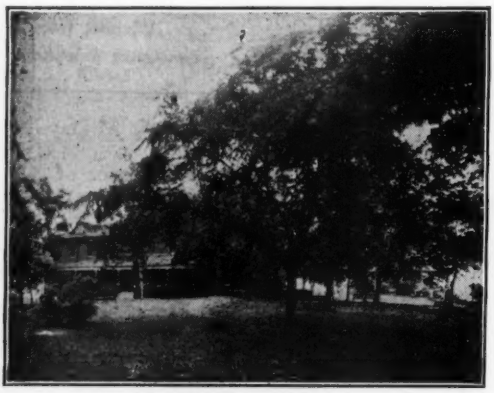

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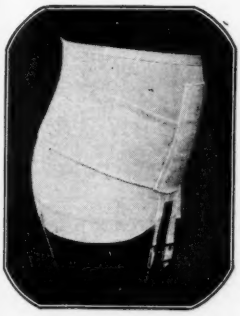

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And talk about a picture of health! I believe he would take first prize in any baby contest.

I'm going to bring him down to your office Wednesday as you suggested. That S.M.A. folder you gave me says even a breast fed baby should be under the supervision of a physician and I think myself that it's better to *keep* the baby well than to wait until trouble starts.

We certainly want to thank you for bringing our baby along so well, Doctor. It increases our confidence in you as our family physician. Tom has already "said it with dollars", but I wanted to thank you personally, too.

And I'm going to persuade Mrs. Brown,—that's my neighbor with the baby that's not gaining—to come along on Wednesday so you can prescribe the proper diet for *him* too.

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VOL. XXXIII TOPEKA, KANSAS, AUGUST, 1932 No. 8

ORIGINAL ARTICLES

PRACTICAL CONSIDERATION IN BONE SURGERY*

W. E. Mowery, M.D.
Salina, Kansas

For practical purposes we may classify the various conditions demanding bone surgery into those resulting from injury, infection, new growth, malnutrition and congenital deformities.

Before entering into the discussion of these conditions reference to normal bone will materially clarify the subject. Long bones are surrounded by a fibrous sheath of periosteum, which in its normal state is not visible by *x*-ray. Beneath this is compact dense cortex composed of bone cells and inorganic salts traversed by numerous small canals. Within is the medullary canal containing marrow, fat, nerves, blood and lymph vessels. At each end the cortex and medullary canal merge to form the cancellous ends, which in turn are covered by cartilage to form the joints.

The various types of fractures demand first consideration, coupled with which one must always be mindful of associated injury to the soft tissue. Compound fractures should be converted into simple fractures, the process of which is well standardized. The adjacent field up to the edges of the wound should be shaved, cleansed with benzine, alcohol and ether, and a reliable antiseptic applied. McDonald's solution or iodine being careful not to contaminate the wound with cleansing solutions or antiseptics, any amount of which will not sterilize the wound and interferes with the first stage of healing. The wound itself should be freed from debris and foreign material with sterile gauze and forceps; devitalized soft tissue trimmed away, and sharp spicula and loose bone removed. The wound should be closed with interrupted sutures of horse hair without drainage and dressings applied.

During the first twenty-four to thirty-six hours there is an elevation of temperature which if it does not exceed 101 can be regarded as fibrin temperature. Should it exceed 101, continue longer than forty-eight hours or a secondary rise occur, the wound should be inspected and enough stitches removed to permit necessary drainage. Mechanical and physiological laws must be observed by placing the injured member in the best position to preserve the integrity of the soft tissue, encourage return circulation and maintain the fragments in the best possible apposition and alinement. Undue pain, excessive sweling, discoloration, necrosis of the skin or the appearance of blebs are danger signals demanding immediate attention. This is equally true of all fractures, compound or otherwise. Should infection occur, its treatment supersedes all other treatment until controlled. Dakin's solution or 75 per cent alcohol in air tight dressing have proved the most satisfactory. The skill and judgment of the surgeon must be flexible enough to meet the demand, as no invariable rule will apply in all cases.

Certain fractures merit special attention. The first of which are those occuring at the lower end of the radius, commonly classified as Colles' fracture, of which there are various types not included in his original article in 1814.

Because of the anatomical relation and the structural importance of the soft tissue, the treatment of all fractures of the lower end of the forearm cherish certain features in common. Colles located the injury one and one-half inches above the joint, most of them occur within three-fourths inch. In over 50 per cent of the

*Read at the 74th annual meeting of the Kansas Medical Society, May 3, 4 and 5, 1932, Kansas City, Kansas.

cases the triangular interarticular fibro cartilage is ruptured with broadening of the wrist. Force extended from the palmar surface of the hand results in an oblique fracture with backward displacement of the distal fragment which gives the characteristic deformity. Force extended from the dorsal surface of the hand results in forward displacement of the distal fragments, producing a reversed Colles.

Occasionally we encounter a fracture extending from the posterior surface of the lower end of the radius into the joint, known as Barton's fracture. If the fracture extends from the anterior surface of the radius into the joint it is a reversed Barton's fracture. Here again the line of fracture depends upon whether the force is extended from the palmar or dorsal surface of the hand. In reality this injury is a luxation of the joint complicated by fracture. Colles' fracture is rarely compound but frequently impacted, associated with injury to the styloid process of the ulna. Epiphyseal separation in children and young adults and other complications are recognized by *x*-ray examination, and variation in the treatment is adjusted to meet the demands of each case. Early reduction is imperative, and complete reduction is absolutely essential to assure complete restoration of function. When impaction occurs the lower end of the radial shaft being tubular and compact is driven into the softer cancellous distal fragments compressing it in such a way as to leave a triangular cavity which frequently results in recurrence of deformity following reduction. This can only be prevented by complete reduction.

Reduction can not be accomplished by traction, but is obtained by unlocking the fragments by hyperextension at right angles of the distal fragments on the proximal one. Once correctly reduced the tendency of recurrent displacement is slight. However, the application of proper dressing is of more vital importance in securing early and complete restoration of function in treating fractures of the forearm, than in any other part of the body.

No amount of tight bandaging or application of pressure splints will prevent displacement of the bones, but by producing circulatory stagnation and undue nerve pressure will prolong the disability and may result in serious permanent injury from necrosis or Volkman's ischemic contraction.

Circular casts should not be used at least until after all swelling has subsided. Moulded plaster or felt makes a reliable and safe splint and meets all demands for universal use. The splint should extend from the center of the palm to within two inches of the angle at the elbow, permitting free use of the fingers and the elbow joint. Adhesive applied directly to the skin frequently produces irritation and I have seen severe reaction in susceptible individuals.

Fractures at a higher level involving both bones of the forearm are more difficult to reduce and maintain in proper alinement which is highly impotant if one is to obtain consistent, satisfactory results. When this cannot be obtained by extension and counterextension, open reduction and fixation is the only solution.

The dressing consists in a padded board of proper width and thickness applied on the posterior surface of the arm extending from a point two inches below the finger tips to a point two inches above the olecranon. The arm is slipped into a stockinet to protect the skin and adhesive applied to obtain sufficient extension and counterextension.

Fractures near or involving the elbow joint present many complications and problems in treatment. Time permits of only passing comment on a few essential facts. There is much discussion pro and con as to early active and passive motion. The answer is crystallized by insisting upon complete reduction. Where not obtained by flexion of forearm, various methods of extension and skeletal traction, open reduction is indicated. In placing the forearm in acute flexion, extra caution must be exercised, because of the danger involved as a result of swelling. The circulation about the elbow should be supported by an ace bandage.

Fractures of the humeral shaft demand little additional comment. Overriding, angulation and rotation are the three cardinal factors producing the deformity.

Depending on the location of the break, certain muscular attachments and contractions influence the displacement. The line of fracture is governed by the application of force. Direct force results in transverse or comminuted fractures, while indirect force produces spiral or oblique fractures. If good apposition without shortening or rotation is obtained, angulation can be corrected after there is partial union. This is a clever stunt in certain cases where one experiences difficulty in controlling all deformities.

Here as in fractures of other single long bones good functional results are not incompatible with some displacement, and should be accepted in preference to open operation or treatment which endangers the soft tissue. Proper reduction is frequently maintained by coaptation splints. If not some form of extension, not over five pounds, is required. In unusual cases it may be necessary to confine the patient in bed to obtain proper extension. A very satisfactory ambulatory splint meeting all requirements in the majority of cases, is Hoke's Ratchet splint. Fractures occurring at the surgical or anatomical neck may be complicated by dislocation.

Fractures of the pelvis and separation of the pubis are fairly common and are the result of severe violence. These fractures are frequently multiple but rarely compound except as a result of penetrating injury. They are grave because of the possible complications from injury of the soft tissue or viscera. All cases should be catheterized before efforts to void are permitted. In case of injury to the urethra an indwelling catheter is placed. Injured bladder demands either supra-pubic or perineal incision. If no displacement is present from fracture of the pelvis, circular support may be all that is necessary. Displacement requires Bradford frame, hammock suspension and extension depending on which combination is best adapted to the individual case. Satisfactory function is usually obtained even though there is marked displacement. Operative treatment is seldom justified.

Fractures through the femoral neck in the aged present a difficult problem. Impacted fractures frequently unite with little or no treatment. Non-union frequently results in unimpacted fractures regardless of treatment employed and always results in cases when reduction is not accomplished. Whitman's method of hyperextension, complete abduction, internal rotation, and fixation meet the requirements of the majority of cases. In young or robust individuals fixation by autogenous bone peg insures restoration of complete function without deformity.

In fractures of the femoral shaft traction is the fundamental principle of treatment. Skeletal traction gives more consistent alinement and apposition, but presents some obstacle to its universal application. Accurate reduction is difficult to obtain and more difficult to maintain by any method of traction and can be obtained consistently only by open reduction and fixation. Here as in fractures of the humerus slight displacement, overriding and shortening are not incompatible with satisfactory functional results, but while far from desirable are occasionally justifiable.

Fracture of the patella is a simple injury, rather frequent in occurrence and results from a direct or indirect force. Since it is a sesamoid bone it has no periosteum, therefore fibrous union results in all cases not operated. The operation should be simplified to suturing the aponeurosis. This being one of the first fractures to receive open fixation, has inherited the sins of tradition, and in the minds of the inexperienced must be handcuffed with iron, flint or rawhide.

Fractures of the leg present their chief difficulty when both bones are involved, or when occurring at the ankle joint. Because the anterior surface of the tibia lies so close to the skin these fractures are frequently compound. In fractures of the leg non-union of the tibia is common. Satisfactory results demand maintenance of accurate reduction, since function of the leg is weight bearing. Angulation and overriding result in noticeable and troublesome deformity.

Non-union, faulty union and certain troublesome fractures require operation.

The type of operation depends upon the skill and judgment of the surgeon in selecting the one best adapted for the individual case.

Non-absorbent material such as wire, steel plates, bands and so forth is rapidly being supplanted by absorbable material. Beef bone makes excellent plates, screws and pegs, which are strong and reliable. They produce very little irritation, last for several months and are eventually absorbed. One can frequently use some type of lock step operation secured by kangaroo tendon with gratifying results, and when adaptable is preferable to the introduction of large amounts of any foreign material.

Autogenous bone graft has a wide field of application and is especially adapted to bridging in defects resulting from loss of bony tissue and in stimulating bone production in non-union.

BONE INFECTION

Osteomyelitis is the most frequent primary bone infection, and results from invasion by pyogenic organisms. Certain specific infections produce definite pathological changes.

As previously stated normal bone is composed of periosteum, cortex, medullary canal, cancellous ends and cartilagenous articulations. The general pathology depends upon the involvement of one or all of these constituents separately or simultaneously. The changes reflected by *x*-ray govern the treatment. When the disease originates in the periosteum the dense cortex prevents extension to the deeper structures and it remains as a periostitis, which if recognized and drained early is usually of little consequence; but if neglected will eventually extend to the deeper structures. Having once gained entrance to the cortex it seldom remains as a simple osteitis, but rapidly extends to the medullary canal producing a true osteomyelitis. More often the disease is conveyed by the blood or lymph vessels and we have to deal with an osteomyelitis from the outset. Infection occurring by this route is more active than direct bone infection. Extension from the joint is first resisted by the cartilage, beyond which it rapidly destroys the head of the bone. Cancellous bone is more resistant and infections extend but slowly to the medullary canal.

There is a free communication between the medullary canal and the Haversian system of canals. These in turn as they traverse the compact bone have numerous intersections, and between the canals there are dense masses of bone salts. This gives the infection free access to all parts of the bone, but the dense structure offers more resistance. Thus the infection can not extend equally in all directions, therefore, it spreads and breaks through in other portions of the bone leaving areas of normal bone between the primary and secondary lesions. When an area of bone becomes completely surrounded by this process it forms a sequestrum. This is an important point in differential diagnosis, as malignancy invades in all directions equally and never produces sequestra. The whole process is accompanied by bone destruction and new bone formation. In virulent infection the destruction is rapid with but little new bone formation. In chronic cases there is less destruction and more new bone production.

New bone is produced at the point of greatest stimulation, that is where the infection stops, as the process pierces the periosteum. This occurs in several places, leaving normal cortex intervening, and this is an important point, as malignancy completely destroys the part as a whole. Therefore we find our new bone formation at the edge and not in the center of the involved area. The production of new bone at the edges defines the boundary of the infection by forming an involucrum. This is important in differentiating, as benign tumors and cysts expand the bone without a limiting layer of new bone formation. In the chronic type, seen more frequently beyond adult life, there is extensive new bone production with small areas of destruction. The medullary canal appears obliterated and the whole bone thickened. Early diagnosis and prompt treatment save destruction.

Tubercular osteomyelitis is extremely rare in adults. It is, however, fairly common in children, as dactylitis, involving

one or more bones. It occasionally occurs in the shaft of long bones, and as such it usually starts in the cancellous parts of the bone and proceeds to the medullary canal, similar to ordinary osteomyelitis. There is thickening of the periosteum but no new bone formation. It is frequently multiple and often invades the neighboring joints. The frequency with which tuberculosis attacks the spine is well known. Tuberculosis of the joint gives a hazy appearance by x-ray examination.

Syphilitic bone involvement may result from congenital or acquired disease and is perhaps the most common bone lesion. Periostitis frequently involves more than one bone. The new bone deposits usually run parallel to the shaft, occasionally they run perpendicular producing a lace work appearance. Luetic osteomyelitis presents bone changes simulating those of the inflammatory type, without the inflammatory reaction and clinical picture. There is decidedly more bone production than destruction. Congenital lues attacks the epiphyseal line, producing partial destruction, with marked periostitis of shaft, but no bone atrophy or destruction.

The nutritional disturbances, rickets and scurvy occur in youngsters. The rachitic joint being very characteristic, with softened epiphyseal line, which is broadened, producing a saucer shaped appearance. The shaft is softened and atrophic. There is no periostitis and its occurrence is multiple.

Scurvy is a multiple disease involving both joints and shaft. The chief characteristic is the diaphyseal side of the epiphyseal line, is the seat of attack producing a change simulating in appearance a second epiphyseal line. There is periostitis of the shaft with frequent hemorrhage. The organized clot may be confused with sarcoma.

New growths are either benign or malignant and may involve any part of the bone except the articular cartilages. The character of the growth and the treatment indicated can only be realized by a clear conception of the surgical pathology. The analysis of which includes age, sex, origin of tumor, (is it primary or metastatic?), location, the constituent part of bone involved, whether it invades or produces bone and the process of extension.

We begin our hypothesis by classifying malignant bone tumors as, carcinoma, round and spindle celled sarcoma, periosteal sarcoma, osteo sarcoma, hypernephroma and myeloma. As benign, giant cell tumor, (giant cell sarcoma) enchondroma or (osteochondroma) cysts. Osteoma, exostosis, fibroma, and myxoma which some times undergoes malignant changes. Osteitis fibrosa cystica, hemangioma and ossifying hemotoma, while not true bone tumors are best included in the analysis.

GENERAL PATHOLOGIC CONSIDERATIONS

Since there are no epithelial cells in bone, carcinoma is always metastatic, conveyed by blood or lymph. Since these vessels enter the bone by the nutrient canal, metastasis more often occurs in the center of the medullary canal. Sarcoma develops from connective tissue and may be either primary or metastatic. It usually begins near the end of the bone and may arise from the medullary canal or cortex. Periosteal sarcoma and osteo sarcoma are cortical in origin. They are the only type of malignant tumor within which new bone is produced. Hypernephroma and myeloma are metastatic and originate in the medullary canal. Enchrondromata may arise from either cortex or medullary canal, since they develop from the cartilaginous nests, which are found in both of these structures. Osteoma and exostosis are cortical in origin, while cysts and fibromata are of medullary origin.

Osteitis fibrosa cystica, hemangioma and ossifying hematoma are all connected with periosteum in their origin. Benign tumors arising in the medullary canal, because of their slow growth expand the cortex and assume a spindle or cylindrical shape. The cortex remains intact unless the growth is very large.

Malignant tumors originating in the medullary canal, because of their rapid growth invade and destroy the cortex equally in all directions. Therefore they assume a spherical shape. Sarcoma may be found at any age but is more frequently a disease of the young, while

carcinoma usually occurs beyond the middle age. All malignant tumors are invasive and destroy adjacent bone. Bone production does not take place within the tumor in carcinoma, round or spindle sarcoma, giant cell sarcoma or cysts, except as result of trauma. The only malignant tumors producing new bone within the tumor are osteosarcoma and periosteal sarcoma. Malignancy does not occur in the bones of the wrist, hand or of the ankle and feet.

All of the benign tumors produce bone except cysts, fibromata, and giant cell sarcoma. The manner in which the new bone deposits form furnish valuable information. In malignancy the formation runs perpendicular to the shaft while in benign growths the formation runs parallel, osteoma being the single exception.

Consideration of the individual tumor pathology will help to further clarify the subject. Carcinoma occurs most frequently in old age, is metastatic, develops from point of entrance of nutrient canal, at the center of the shaft. It does not produce bone but invades it equally in all directions, thereby producing a spherical mass.

Bone may become involved by carcinoma from any other part of the body. Breast carcinomata do not metastasize below the elbow or knee. Uterine and ovarian carcinoma seldom metastasize in bone. Bladder and prostatic carcinoma frequently involve the bones of the leg. Those from the prostate, because of their slow growth, produce a peculiar reaction in the bone just outside the tumor resulting in a layer of new bone deposit. There is no new bone produced within the tumor.

Round cell sarcoma, very malignant, may occur at any age, but usually found in children and young adults, may be primary or metastatic. It most frequently involves the end of the bone, involves bone in all directions equally, without new bone production.

Spindle cell sarcoma presents the same pathological changes with less activity than the round cell type.

Hypernephroma does not frequently matastasize to bone, but when it does seems to select the humerus.

Periosteal and osteosarcoma are the only malignant tumors producing new bone. Their chief difference is, that in the periosteal type there is very little bone destruction, and the bone production occurs in a manner entirely different from any other tumor. The new bone deposits are perpendicular to the shaft. The striae extend out into the soft tissue and are but faintly connected to the periosteum, giving it a radiant appearance.

The osseous type extends into the shaft and medullary canal as well as the soft tissue. The amount of bone production depends upon the rapidity of the growth. The striae are perpendicular.

Myeloma is an infrequent tumor, is not so malignant, may involve long bone as multiple tumors. Bence-Jones bodies occur in the urine.

Giant cell sarcoma develops in young adults as a benign tumor, frequently confused with malignancy, because it grows in all directions without new bone, and occasionally heals spontaneously.

Enchondroma or osteochondroma, a benign cartilaginous tumor of the young, usually occurring prior to epiphyseal union, is medullary or cortical in origin and occurs at the end of the bones. It expands but does not destroy the cortex and does not destroy or produce new bone unless fracture occurs, which is quite common. This tumor results from cartilaginous nests. It is cystic in character, and practically always multiple. It occurs most frequently in the bones of the hand.

Cysts are frequently confused with enchondromata. They are clearly outlined and more frequently single. Their pathological change are similar to those of other benign growths.

Osteoma is a solid bone tumor extending out into the soft tissue. This is the only benign tumor in which we find bone deposits perpendicular to the shaft. The growth has a cauliflower appearance, and contains small areas of cartilage.

Exostoses are of two types, table top and pencil. They are solid bone tumors but are occasionally topped by osteomata. The pencil type grows away from the joint.

Osteitis fibrosa cystica most always occur in children. It lies between an inflammatory process and bone tumor. Since the clinical signs of inflammation are not evident, it is classified with the latter. The tibia and fibula are its favorite locations. Softening of the bones with frequent fractures, or bending, as in rickets, is one of its chief characteristics. The bone may be involved throughout a greater portion of its extent and in this respect simulates an osteomyelitis. Large or small cyst like areas appear in the medullary canal expanding but not destroying the cortex.

Hemangiomata frequently involve the feet, hands and forearm. They are fluctuating tumors not connected with the bone, but have small calcareous deposits not unlike embedded shot. They are essentially benign.

Ossifying hematoma when occurring in children, is most frequently associated with scurvy, in which the periosteum is elevated by hemorrhage and undergoes calcareous changes. When occurring in adults it is the result of slight trauma, surrounds the bone and is definitely limited.

In presenting this subject, I have endeavored to consider the various conditions in a way which I hope will give a more practical working knowledge of bone surgery.

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Coronary Artery Disease in Working Classes

Ernst P. Boas, New York, and Samuel Donner, Hartford, Connecticut (Journal A.M.A., June 18, 1932), present the results of an analysis that they made of 615 males and females of the industrial class in New York City who were referred with the presumptive diagnosis of heart disease. Eighty-eight per cent of the population from which these patients were drawn were under the age of 50. Almost one-third of the 615 referred patients had disease of the coronary arteries. Of those with disease of the coronary arteries, 71 per cent were under the age of 51. This represents an exceptionally high frequency of coronary artery disease, which is all the more remarkable in view of the preponderance of individuals under the age of 50. The author's data demonstrate that coronary artery disease, contrary to general belief, is more common, and occurs earlier in life, at least in certain groups of industrial workers. They suggest the desirability of further studies along similar lines with different racial and occupational groups.

SENSIBLE FOOD FOR DIABETICS

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Since the introduction of insulin, diet in the treatment of diabetes is more necessary than ever before. At the same time diet can be more normal now than ever. Gone is the day when diabetics live a life of torment and starvation in order to live at all.

The fundamental difference between the diabetic and the healthy non-diabetic is the diminished ability to metabolize carbohydrates. Effective treatment then must consist essentially in compensating for the impaired metabolic function by figuring out suitable food intake to meet the needs of the body, and if necessary, adding insulin. In actual practice, treatment of diabetes means the balancing of metabolic capacity against metabolic load. Obviously, the more accurate the balance the more perfect is the result, although it is well known that the body can take care of 10-20 units overdosage of insulin daily in certain cases without reaction. This is due to the shock absorber action of the pancreas or "loafing" as it is sometimes termed. The pancreas, when not required to produce insulin, may rest when there is sufficient exogenous insulin being supplied. The more severe the diabetic the less insulin is being manufactured by the pancreas, and the less the shock absorbing ability present; therefore, the more likelihood of insulin shock.

The general practitioner who has access to a hospital and laboratory should be prepared to treat diabetes. It is no longer necessary to call in the specialist as it was when insulin was first introduced. The action and use of insulin has been so well worked out that any intelligent doctor can acquaint himself with the use of diet and insulin and can successfully treat the ordinary case of diabetes. We do not agree, however, that any case of diabetes should be treated with insulin without carefully working out a maintenance diet and the proper dose of in-

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sulin to balance it; then instructing the family so that they can handle the routine. This practice is unfair to the patient, detrimental to the doctor and gives the wrong impression of the value of insulin. If we are unwilling to do this, or the patient is too ignorant to learn the simple scheme and unable to follow the directions, it would be better not to use insulin, for we must admit that insulin is a very potent drug and that there is only one safe way to use it; namely, by properly balancing insulin against diet and checking up frequently by urinalyses and, if possible, occasionally by blood sugar estimations.

The greatest boon to the diabetic since insulin, is the higher carbohydrate diet. The length of life of diabetics has been considerably increased due first to insulin, and later to the greater freedom in giving carbohydrates. Now our patients are dying of intercurrent diseases and diseases of old age rather than diabetic sequelae.

In the treatment of diabetes we hope to accomplish the following results in the order named:

1. To free the patient from ketone bodies.
2. To provide a proper maintenance diet.
3. To free the urine from sugar.
4. To establish a normal blood sugar.

In mild cases all of these aims may be accomplished by diet alone, but in most of our cases, especially in the younger diabetics, one cannot burn enough carbohydrates to insure safety against ketosis without giving some insulin along with diet. The most important thing in a new case of diabetes is to find out whether or not he is running diacetic acid and acetone in his urine, and if so, free him from this, the greatest danger in diabetes. As we well know, fats will only oxidize completely when there is sufficient carbohydrate being burned. In other words, when there is an inadequate amount of carbohydrate being burned the fats will be imperfectly split up with the resulting diacetic acid and acetone. These ketones are powerful poisons and incompatible with life. The fats burned may be exogenous, the fats from foods; or endogenous, the fats from body tissues. If insufficient fats are eaten, the body fats are burned with resulting loss of weight.

Shaffer[1] has shown that ketosis cannot be avoided entirely unless the patient burns in his body one part by weight of carbohydrate to one part of fat. If the ratio of carbohydrate to fat falls below 1:1, ketosis develops. We see then that a patient with the old type of diet—one that approximates one part of carbohydrate to one of fat—is in constant danger. Infections, lowering the carbohydrate tolerance or vomiting and diarrhea causing a failure of carbohydrate utilization would cause incomplete oxidation of fats, with ketone bodies piling up in the blood stream. We have all seen diabetics put on a low carbohydrate diet to free the urine of sugar, and then suddenly go into coma. The following cases will illustrate the danger of fat in the diet.

A. H. A girl, 6 years old under treatment with the old 1-1½-3 diet, kept sugar free and developed normally with her weight a little under normal. But she kept having attacks of ketosis. Sometimes during a cold or tonsillitis, or apparently without known cause she would start to vomit with flushing of face, rapid pulse, increased respiration and diacetic acid in the urine coming on nearly always at night.

We would have to take away all of her diet except carbohydrates, increase her insulin, and in a few hours the condition would be under control. This happened over and over so many times that we were discouraged and at a loss to know how to successfully manage the case. Her diet was correct according to the accepted formula at that time. Her insulin balanced so that there was no sugar in her urine. Her blood sugar was normal. Her ketogenic antiketogenic ratio was correct according to formula, but as we know now, her amount of fat was too great for the amount of available glucose, and when infections came along to lower her tolerance, or when her endogenous supply of insulin was reduced so that sufficient carbohydrate was not burned, ketosis developed.

After changing this child over to the higher carbohydrate diet there has been no further trouble, although she has had plenty of opportunities. The change in her condition has been almost miraculous.

H. G. A boy, 15 years of age on the 1-1½-3 diet, was getting along well until Christmas time came. I received a hurry up call to see him and found him in coma with heavy sugar and ketone bodies in the urine. His parents insisted that he had not broken over and eaten candy as I had at first thought, but had eaten great quantities of nuts, which he thought would be less harmful because they contained no sugar. Here was vivid proof of the harmfulness of fat. It would have been much safer had the boy eaten Christmas candies rather than nuts. There was not enough carbohydrate being burned to take care of this big load of fat and consequently the fats were not completely burned and ketosis developed. He quickly reacted to intravenous insulin and glucose.

We must remember that there is no hard and fast rule that can be employed in feeding the diabetic. Many types of diet have kept people alive. Before the insulin era we were compelled to observe closely the fatty acid-glucose ratio because, in order to provide calories enough to nourish the body, fat and protein were of a necessity the main stays. Carbohydrate could not be depended upon to furnish much of the fuel. It was not unusual to see an adult on a diet of C 26, P 70, F 70—a dangerous diet to be sure, on the verge of ketosis all the time, with a fatty acid-glucose ratio of 1:1½. Almost a starvation diet with only about 1000 calories to keep up weight and strength. But there was no other alternative and it was truly remarkable that patients could get along at all. Little wonder that many chose to die rather than try to exist on such a diet. Then after insulin was introduced, doctors were afraid to raise the amount of carbohydrate to any great extent, still believing that a patient should take as little as possible. This, no doubt, came about from the fact that Allen had just previously revived the old starvation method of treatment with quite a degree of success. However, a good many men did raise their diets to 70 or 80 grams of carbohydrate and believed that they had a very good diet.

Joslin[2] states that in a series of cases of six groups of thirty cases each, under observation from 1915 to 1931, the carbohydrate content varied from 26 grams in 1915 to 144 grams in 1931. Even without insulin it rose to 43 grams in 1916, and following the introduction of insulin reached 71 grams in 1923 and 96 grams in 1927. Now "The average carbohydrate in representative groups at the New England Deaconess Hospital varies between 125 and 144 grams." The trend has been constantly toward increasing of the carbohydrates in most parts of the United States and Europe. The pendulum has swung far to the other extreme until quantities as high as 300 grams and more are being used in some localities.

Many schemes have been devised to graphically show the relative amounts of carbohydrate, protein and fat. It is generally accepted that an adult needs 1 gram of protein for each kilogram of body weight. Taking this as a standard, one of the first formulas used was C 1, P 1, F 2½, for patients with normal weight. For a man of 150 pounds weight (70 kilos) his diet would be C 70 grams, P 70 grams, F 175 grams. A fatty acid-glucose ratio of 1:1.5, and furnishing 2135 calories. Later Dr. Major came out with his scheme of C 1, P 2, F 3. This was a clever method of calculating diets, but the amount of fat was out of proportion to the carbohydrate. A 2000 calorie diet would read C 50, P 100, F 150.

In the practical application of these formulas we find that it is very difficult to get along with such a small amount of carbohydrate. For instance, a slice of bread each meal totals 54 grams of carbohydrate. We readily see that it is out of the question to figure on bread as a food. We come then to the question as to what is the greatest hardship in a diabetic's diet? It has been my experience that it is always the same story. "Doctor, I can give up anything if you will let me have some bread. I cannot eat without bread." There have been more things

concocted to take the place of bread for diabetics than any other article in diets. Substitute breads have been made from dozens of materials and none of them successful or satisfying. With the higher carbohydrate diet ordinary white bread becomes one of the constituents of every meal. Bran, soy bean, gluten, listers and other substitute breads have been eliminated from our diets.

Now what is meant by the proper amount of carbohydrate? I believe that every diabetic should have twice as much carbohydrate as fat. A 2000 calorie diet then for a 70 kilogram patient could be divided about as follows: C 200, P 70, F 100 (grams). Joslin[2] now says "It is perhaps fair to say that at present a carbohydrate content of the diabetic diet between 100 and 200 grams can be accepted as a standard range. Whereas below 100 grams is almost as experimental as a carbohydrate content above 200 grams." Sansum[4] goes still farther and gives twice as much carbohydrate as fat which often amounts to 200 up to 300 grams for an adult.

Workers[3] in the Sansum Clinic found that insulin has some functions yet unknown in the metabolism of fats, so that in a given case running no sugar in the urine 100 grams of fat could be taken from the diet and 130 grams of carbohydrate added without the need of additional insulin. Barach[5] in a recent article reports 150 cases that have been put on the higher carbohydrate diet. He says, "While the average allowance of carbohydrate has been increased 70 grams daily, I have had to increase the insulin only 3 units a day. This is evidence of the fact that insulin applies to the total metabolism, or that 1 gram of fat creates the need for as much insulin as 2 grams of carbohydrate." Many other workers have found this true and have proven to their own satisfaction that insulin has something to do with fats. This is the reason that a low fat—high carbohydrate diet is practical, and as we have shown, much safer and more desirable from every point of view, I have changed all of my diabetics to this diet in the past three years and patients are unanimous in their choice of this scheme and all are taking less insulin than before. Since changing to this diet, no patient has shown a sign of ketosis. Even though they have had acute colds, sinus infections, otitis media and tonsillitis, none have developed ketosis or had to have their diets modified to prevent this complication. We have proven this principle also in patients who have come in, out of balance and running a little sugar in the urine. By doing nothing but taking away a little of the fat from the diet, the sugar would disappear from the urine on the same dose of insulin.

ARTERIOSCLEROSIS

Before the insulin era, coma ranked first in the cause of death by diabetes, and heart disease second. Now heart disease is in first place. This is due to patients reaching greater age, developing arteriosclerosis, coronary disease and high blood pressure.

The high protein diets formerly used, without doubt, favored the development of arteriosclerosis, but it is agreed now that the use of 1 gram of protein for each kilogram of body weight is a safe standard to follow. Again *fat* is the *danger* food. Large amounts of fat in the diet cause an excess of cholesterol in the blood stream. Too much fat even though completely burned causes arteriosclerosis. Carbohydrates may produce arteriosclerosis only when used in amounts that cause obesity. It is, without doubt, the food that we must depend upon in our cases of arteriosclerosis. Joslin[6] says in regard to prevention of arteriosclerosis, "First of all the quantity (of fat) must be so low that body weight will eventually be kept normal or a trifle below normal. Fat in the tissues may do harm. Second, the diabetic who has seemed to me to develop arteriosclerosis at an abnormally early age has been the severe diabetic, kept alive hitherto upon a low carbohydrate high-fat diet."

OBESITY

The greatest factor in the cause of diabetes is obesity. One only needs to ask his patient what his greatest weight has been and nearly all will tell you that they have been greatly over weight at some time. It is a disease common among

the rich and indolent. Locomotive engineers are prone to diabetes. Their work is more mental than physical and they average about 20 per cent overweight. Adams[7] found that in 1000 cases at the Mayo Clinic no patient developed the disease who was more than 20 per cent underweight. It is rather common to see a husband and wife both afflicted with the disease due to exposure to rich food. The question of obesity is so important that every diabetic should be brought down to normal weight or slightly under, and kept there. He needs to be properly nourished, but not over fed.

PLANNING THE DIET

Doctors as a rule do not like to make out diets. They think of it as a complicated procedure, and many consequently try to get along without them and do not treat their diabetics as efficiently as they should.

First, it is necessary to have a diet that is not only appetizing and satisfying, but it must contain enough calories to provide strength for the duties the patient must perform. A man at hard labor needs a great many more calories per kilogram of body weight than the man doing office or desk work. It is impossible to say how many calories any given patient should have. Only experience will tell this. If the patient is under-nourished, he will lose weight and strength. So, for the average adult a menu of about 2000 calories is a good starting point.

One should think first of the food a person usually eats—leaving out the sugars. For breakfast: Fruit, bacon, eggs, toast, coffee. For lunch: Vegetables, meat, bread, butter and fruit. For dinner: Soups, meat, vegetables, salads, bread, butter and fruits. This is about the way normal people eat. These three meals should be divided equally as to amount of food. (See Maintenance Diet). Notice that there are about 66 grams of carbohydrate, 25 grams of protein, and about 33 grams of fat in each meal.

Now, we should see that our acid-base balance is correct. There should be an excess of alkaline-ash foods to counterbalance the acid-ash foods. We need only to remember that the acid-ash foods are meat, eggs, wheat and corn products. The vegetables and fruits should be generous.

Lastly, our diet must contain the essential vitamins and minerals necessary for health.

MAINTENANCE DIET FOR AVERAGE ADULT

	Grams	C	P	F
BREAKFAST				
Bacon	15	0	5	7.5
Egg (1)	....	0	6	6
Cereal	30	23	3	0
Cream 20 per cent	60	2	2	12
Toast	50	31	6	0
Butter	10	0	0	8
Fruit	120	12	0	0
Coffee	....	....	....	....
Total		68	22	33.5
LUNCH				
Vegetable 5-15%	250	15	5	0
Lean Meat	30	0	8	5
Bread (white)	45	24	4	0
Butter	25	0	0	20
Fruit 10-15%	150	15	0	0
Milk	240	12	8	8
Total		66	25	33
DINNER				
Vegetables 5-15%	250	15	5	0
Lean Meat or fish	30	0	8	5
Bread (white)	45	24	4	0
Butter	25	0	0	20
Fruit 10-15%	150	15	0	0
Milk	240	12	8	8
Total		66	25	33
Total for day Calories about 2000		200	72	100

ADVANTAGES OF HIGHER CARBOHYDRATE DIET

This diet is more normal. It gives a patient a sense of well being which is hard to describe, but about which he is very positive. He is more satisfied and easier handled. He doesn't break over his diet because he has enough carbohydrate to satisfy.

Psychologically, it is better for the patient. He does not feel that he is an outcast. He can associate with other people, go out to public dinners and entertainments without displaying his affliction before others. He can sit down with his family and eat the same foods that they eat. It is not necessary for his wife to prepare special dishes for him. These diabetic foods are expensive and generally poor substitutes for the real foods.

He can get his required food at any hotel or restaurant if his duties take him away from home.

Summarizing then—the higher carbohydrate diet:

1. Is safer from ketosis.
2. Tends toward the diet of normal people.
3. Is less liable to produce arteriosclerosis.
4. Is psychologically beneficial.
5. Takes no more insulin.

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LOBAR PNEUMONIA IN INFANTS AND YOUNG CHILDREN*

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If one takes up a text book of pediatrics and looks up the subject of pneumonia, he is at once struck with the fact that while bronchopneumonia is rightfully given much space and emphasis, lobar pneumonia receives little notice. He also will receive the impression bronchopneumonia is far more frequent than lobar pneumonia as a clinical entity. Perhaps the incidence of the two diseases varies in different localities and under different climatic conditions, but certainly if we except those bronchopneumonias that are terminal, lobar pneumonia in infants and young children closely approaches in frequency of occurrence bronchopneumonia in the northern portion of the United States.

It has always seemed to me that the impression of the greater frequency of bronchopneumonia has come from two sources. In the first place, there have been counted with the bronchopneumonias, probably with a certain degree of right, those terminal pneumonias which occur so frequently in children and especially in infants. This pneumonia, however, is only the end picture of a clinical entity which is really not in itself to be regarded in the same light as a bronchopneumonia which runs a rather definite course and gives a rather definite clinical picture. If as I say, we except this form of bronchopneumonia, lobar pneumonia assumes greater importance at this time of life. The second point is that in early days, statistics regarding pneumonia were gathered very largely from the "dead house" and it is a well-known fact that at this age bronchopneumonia is a much more serious affection than is lobar pneumonia.

With the use of the *x*-ray for diagnostic purposes and with a careful estimation of the clinical picture, certainly the incidence of error in our differentiation between these two conditions must be distinctly lowered. While conglomerate bronchopneumonia involving an entire lobe may at times occur, its frequency is not sufficient to alter materially statistics on two conditions.

While the number of cases directly under our control at Presbyterian Hospital is not large, still they offer perhaps in this instance a fairly good cross-section of the incidence of these two conditions. In the last ten years we have had 107 cases of bronchopneumonia and 118 cases of lobar pneumonia. The incidence of these as regards the years of age are as follows:

	Bronchopneumonia		Lobar Pneumonia	
	Cases	Deaths	Cases	Deaths
Under 1 year	65	39	29	7
Over 1 year	42	7	89	2

It would therefore seem that some definite clinical study of the cases of lobar pneumonia in infancy and childhood, should be undertaken.

THE ONSET

Under six years of age certainly we do not expect lobar pneumonia, or any other acute infection to be initiated with a chill. More likely, the child has some little upper respiratory infection which we disregard. It suddenly takes ill, the temperature shoots up; it frequently vomits. Occasionally a convulsion ushers in the

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picture. More often, however, the mother, or other attendant, finds that the child has a rather high temperature for which she cannot account. There may be some cough, but this is usually not severe at the beginning. The child is not prostrated to the degree we would expect when we consider the condition in an adult. The initial temperature may or may not be high; at times there is an acute rise to one hundred four, five or six, while at other times the temperature shows a tendency to go up rather gradually and may not reach its peak for four or five days. Usually, however, at the very beginning, there is an abrupt rise in temperature. The child may be rather cross or irritable, depending upon whether or not there is evidence of pain from pleural irritation. In other words, the onset of the pneumonia does not give us any special clue as to the nature of the condition. It is like the onset of so many other acute diseases in infants; it does not vary materially from an onset of severe sore throat, pyelitis or otitis media.

RESPIRATIONS

Respirations are usually rapid; rapid even out of proportion to the pulse and temperature. One should always be cautious about recording pulse and respiration in an infant. No record is of value unless the child be absolutely quiet, preferably asleep. The least disturbance may push up pulse and respiration even in a well child to the point where both become suggestive of disease. As usually taken in the hospital, pulse and respiration in children are of very little significance. It is only with a carefully trained nursing personnel used to caring for children and infants that one may expect the proper sort of co-operation in this respect. When, however, one has a careful record of respiration, rapid respiration constitutes one of the chief guides in early recognition of the presence of a lobar pneumonia. As the disease advances, the respiratory efforts become more frequent and labored. There develops the expiratory grunt and the dilatation of the alae nasi. If at any stage of the disease, there intervenes a pleurisy the respiratory efforts are seen to be much more labored and frequent. In estimating respiratory difficulties in children and especially in infants, we must always remember the younger the child the more is the respiration likely to be of the abdominal type, so that if we are to judge the depth of respiration, we must look rather to the abdomen than to the thorax.

COUGH

Cough is not as a rule an harassing symptom. Some cough is practically always present, but if these children be left alone, they are rarely racked by cough as sometimes occurs in the adult. It is of a great deal of importance to estimate in the young child the severity of the cough. Cough more than anything else has frequently led to unnecessary therapy. The interpretation of the severity of the cough should never be left to one as interested as the mother. A very careful estimate of the condition of the child and a careful review of the previous twenty-four hours will often show that anxiety of the mother and attendants sometimes has resulted in their exaggeration of the severity of the symptom. Cough in lobar pneumonia in infants, may I repeat, is rarely of a serious nature and in young children the same is largely true.

DIGESTIVE TROUBLES

The *gastro-intestinal tract* is rarely the seat of much disturbance. I realize that this point will be questioned by many who have had to treat this condition, but I feel that the statement is justified on the basis of my experience and I think there is an easy explanation for gastro-intestinal upsets. In the first place, the infant is never willing, nor able, to take the full amount of food which it does in health. For an adult in a like condition, we materially reduce the diet; do not attempt to give him anything like the amount of food which he takes normally. In other words when an infant is affected with lobar pneumonia all the attendants seem to think it necessary to fill him up with as much food as is possible to get into him. They do not realize the child himself is in most instances the best judge of the amount of food which he should take. You will rarely observe

gastro-intestinal complications in lobar pneumonia in a series of cases that have received no drug therapy by mouth. If the child with lobar pneumonia be treated rationally, if food be not forced, nauseous mixtures of various drugs for the sake of controlling cough be left out, gastro-intestinal symptoms are certainly extremely uncommon. There may be frequently some slight reduction in the number of stools and perhaps they may be somewhat stiffer than under perfectly normal conditions, but aside from this there is very little to be worried about in the gastro-intestinal tract in the vast majority of cases. Diarrhea of a severe degree is certainly uncommon.

PULSE

Pulse is rapid, but not in proportion to the respiration. The heart is rapid, but regular and strong. It is only in those cases where we have a valvular disturbance that the heart shows a tendency to break down as it does in the adult.

URINE

At the onset it is not uncommon to find a scanty urine, containing granular casts and perhaps a small amount of albumin. Sometimes during the course of the disease, there is to be found an increased number of cellular elements. Urinary complications of lobar pneumonia are certainly unusual. Occasionally after the course of the pneumonia, we encounter a hemorrhagic nephritis, but this is not a common complication and may be recorded in the line of a sequella just as it may often follow otitis media, or tonsillitis.

PHYSICAL EXAMINATION

The physical signs which characterize lobar pneumonia in adults rarely appear in the same sequence and to the same degree of uniformity in infants and young children. In the latter the most constant sign is probably dullness on *percussion.* This is usually found early and with a varied degree of constancy. It is not always present and often times is only encountered late in the disease. If we except an occasional rale which is not characteristic of lobar pneumonia, we may say that dullness practically always precedes the other lung signs. We must, however, realize that in a child it is extremely difficult at times to outline the area of dullness with anything like the same degree of accuracy which one can attain in the adult. It is frequently very difficult to outline dullness in the upper lobe. In babies usually the entire lobe must be involved before one can get any definite area of dullness. The older the child the more likely one is to get a definite area sharply outlined corresponding to a lobe. In young babies it is comparatively infrequent to be able, even with the most careful percussion, to outline a definite area of lung dullness. When we come to *auscultation* certainly the first finding that is definite is bronchial breathing. I find that comparatively few are able to detect bronchial breathing in the chest of the child. Bronchial breathing is by no means always loud, and always in my teaching, I have lain stress on the fact that it is the character of the breathing, in other words, the quality and not the quantity of the sound which is important. Where one is not used to examining the chest of an infant, a very good idea of bronchial breathing can always be obtained by placing the stethoscope to the right or left of the fourth or fifth dorsal spine. Another point about auscultation I think is especially true of infants. It is by no means always a detriment that the child cries, often times it is the only way in which one can get deep respirations and a little experience in examining the chest of an infant or young child will teach one to take advantage of the crying as a help rather than a hindrance. *Bronchial* breathing may or may not appear early in the disease; sometimes only the day before the crisis; sometimes the entire course of the disease may be run only to get bronchial breathing after the crisis. *Crepitant rales* are comparatively infrequent in the lobar pneumonias of this age. I should say that the majority of the cases run their course without such rales appearing. Sometimes in the early stages before consolidation can be determined we hear crackling rales over the lobe which later becomes affected. It is often times difficult to determine

whether such rales are mere transmissions from rather large bronchi, or whether they really represent involvement of lung tissue. They are, however, transient in nature and have comparatively little significance so far as I have been able to determine. The crepitant rale is too as a rule present only for a short time and may come and go in the course of the disease. *Friction rubs* are not often to be heard even though the child shows definite signs of pain on inspiration. Whether all cases of empyema are preceded during the active stage of the pneumonia by a definite pleurisy, I am not able to say, but certainly the occurrence of empyema is more frequent than the evidence that I have had of the presence of pleurisy during active stage of the disease. The upper respiratory tract is quite frequently the location of inflammation before the signs of pneumonia appear. Pharyngitis is almost always present as a bright red, inflamed throat. Hoarseness is not often present.

THE COURSE

The course is not greatly different from that in adults, but there are certain features which we should always bear in mind. There is a somewhat greater tendency for the disease to run a shorter time than in older individuals. Once in a while one will be able to distinguish a definitely abortive pneumonia, proven cases of this type it is true are few, but they are to be met with.

One little girl came into the hospital from an orphan asylum. The children in this institution are very carefully supervised and we note for instance that she had had no temperature until late in the afternoon of the day of entrance. She was seen by one of the physicians of the pediatric department of the medical school and had been sent to the hospital not because of pneumonia, but because of a high temperature and prostration, the cause of which he was not able to distinguish. Her temperature curve is as pictured (Fig. 1). Interesting to note, however, are the *x*-rays and while on physical examination we were able to de-

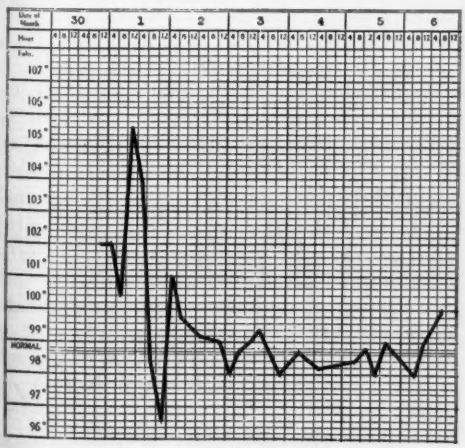

FIG. 1
Abortive pneumonia: termination by crisis with slight post-critical rise.

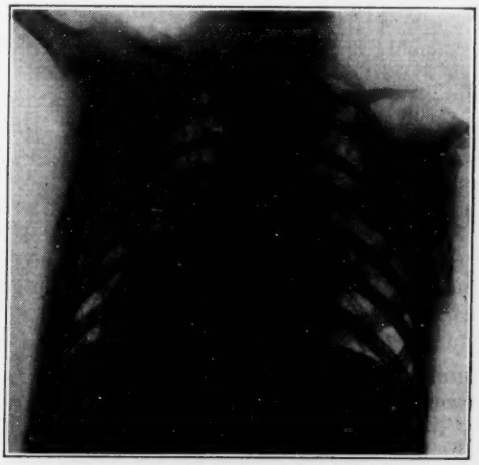

FIG. 2
Mildred H. Central pneumonia Abortive type 12/1/25

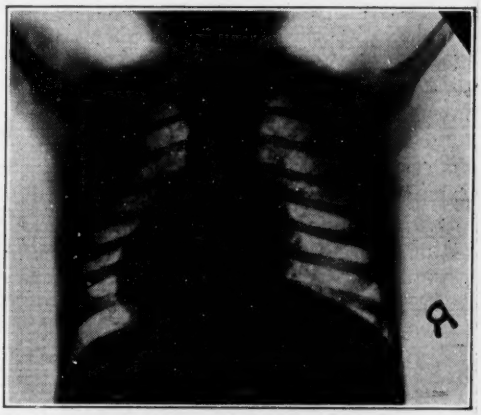

FIG. 3
Mildred H. 12/5/25. Shows the disappearance of shadow caused by central pneumonia.

termine no evidence of lobar pneumonia, the *x*-ray evidence was conclusive when we viewed the picture taken at the heighth of the fever and the one a few days afterward.

Very little has been written as to the *temperature* curve in this disease in children, but it certainly has a tendency to be much more varied than that of the adult. It is true in perhaps 20-25 per cent of the cases, a typical course with crisis is to be found, but it is not at all

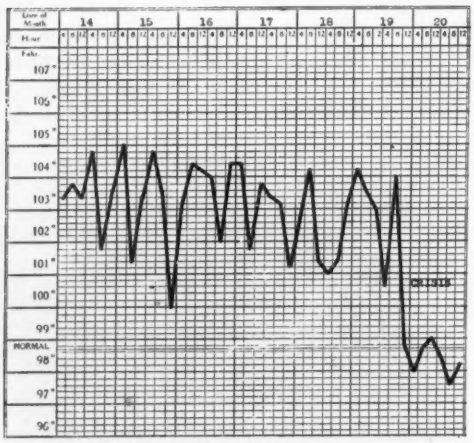

FIG. 4
Lobar pneumonia: termination by crisis.

unusual to have the course end with a pseudo-crisis to be followed in 24 hours by a real crisis. Ending by lysis is not unusual. A true septic temperature is encountered now and again. Once in a while one meets with a case where the

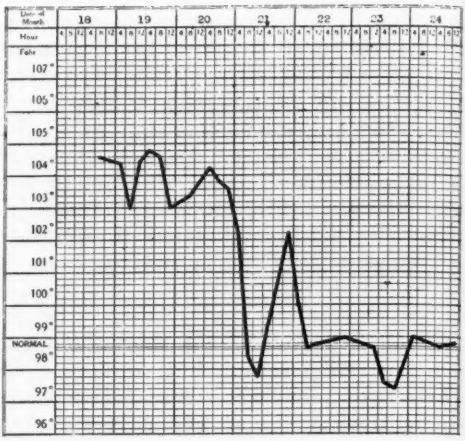

FIG. 6
Lobar pneumonia: termination by pseudo-crisis.

temperature is very little elevated. This is usually met with in children who are greatly depleted and often times ends fatally. As is well-known in children, there is a marked tendency for empyema to develop after the course of the pneumonia. Occasionally one meets with other complications such as pericarditis, but as a rule when the course of the fever is definitely ended, the child makes a rather rapid recovery.

In marked contra-distinction to the

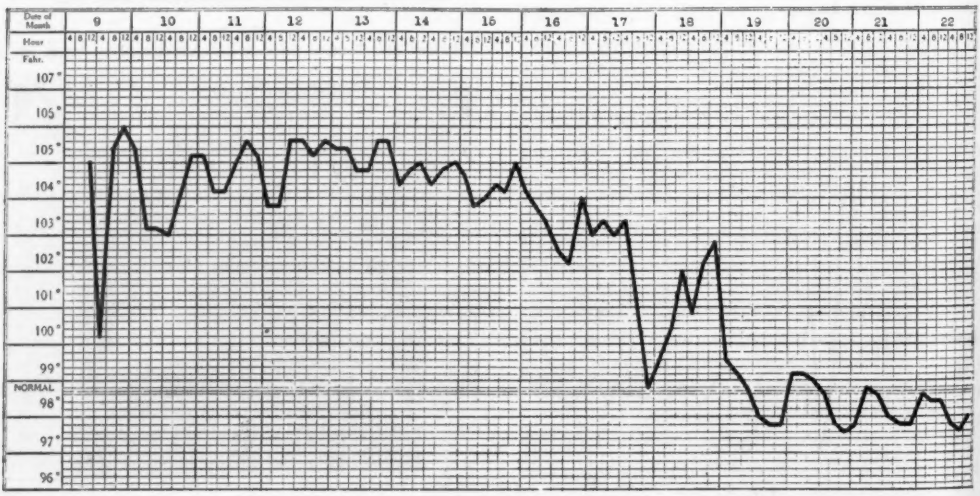

FIG. 5
Lobar pneumonia: another form of termination by pseudo-crisis.

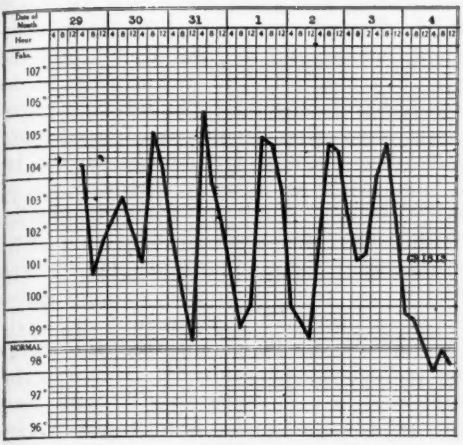

FIG. 7
Lobar pneumonia: septic temperature with termination by crisis.

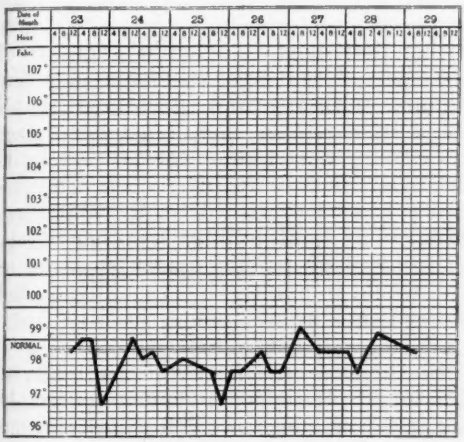

FIG. 8
Lobar pneumonia: fatal termination with practically no rise in temperature.

condition in the adult, heart weakness is of relatively rare occurrence and this much dreaded phenomenon in the adult is not a source of great danger in the infant and young child. Occasionally when the course is a severe or septic one with high sustaining temperature of one hundred five or six, just before the crisis these infants may become slightly cyanotic, but this symptom is not nearly as frequently met with as in bronchopneumonia.

Delayed resolution and unresolved pneumonia are sometimes seen. The latter may exist for several weeks, but nearly always cleans up without leaving untoward symptoms. While there may be temperature and all the signs of consolidation in these cases, the children rarely show much prostration.

DIAGNOSIS

The diagnostic features which have seemed to me to be most significant are the early increased respiratory rate and the evidence of consolidation either on physical examination or in the *x*-ray. Often times these children are not much prostrated, certainly not as much as we would expect and it is difficult to imagine a child, in the general condition in which we see it, to be suffering from a lobar pneumonia. The course of the temperature helps us little in many cases, but the presence of an area of bronchial breathing in the region where we have obtained dullness is of the greatest importance. It is not always easy to be sure of dull areas on percussion in young infants. The reason for this I am not sure of, but certainly in many instances where we have obtained a dull note over the thorax, our suspicions are not confirmed by the *x*-ray. Strange as it may seem in every instance the *x*-ray does not give us definite evidence, though in most it does. Early in the disease as a rule the *x*-ray is positive, but it may be a matter of days before there is sufficient consolidation to show a definite shadow. We see, therefore, in lobar pneumonia as in every other disease, it is not the presence of one typical symptom, but a final judgment of all the phenomena present which makes the diagnosis.

To be differentiated of course are such conditions as pleurisy with effusion, unresolved pneumonia, massive bronchopneumonia and tuberculous pneumonia, or epi-tuberculous infiltration. One should always remember in differentiating pleurisy with effusion in young infants that the note to be heard over the dull area is frequently bronchial rather than a loss of breath sounds and that occasionally in a massive lobar pneumonia, there is a loss of breath sounds rather than bronchial breathing. The area in pleurisy with effusion does not cover as a rule the same region as does that of lobar pneumonia. In the small chest,

however, to distinguish the shift of fluid is extremely difficult.

Unresolved pneumonia has already been spoken of and usually the history gives us a good idea of the situation. It is often times impossible to distinguish between massive bronchopneumonia and lobar pneumonia. There is usually greater prostration in the former and a definite tendency to some cyanosis (heart weakness). The temperature curve is much more likely to be septic but taken by and large in a certain number of cases it is impossible to distinguish between the two.

The tuberculous conditions are rarely associated with as much general disturbance. The temperature is not as marked; the prostration is not as great. A positive tuberculin reaction is of the greatest value in these young children and often times the *x*-ray will show a primary focus outside of the area of consolidation. There, too, is much more likely to be in the *x*-ray evidence of enlargement of the peribronchial glands. The course in the tuberculous condition is naturally much more prolonged, sometimes lasting for months, but after all, the chief points in differentiating must be the general condition of the child and the presence of a positive tuberculin reaction, supplemented by a careful history.

PROGNOSIS

As previously stated the reason that lobar pneumonia in infants and young children has been regarded as relatively uncommon, at least as so much less frequent than in bronchopneumonia, has rested upon the fact that bronchopneumonia is so much more deadly. In our series of cases at Presbyterian Hospital the death total for all children was 9. Seven under one year of age, a rate of approximately 25 per cent under one year and only about 2 per cent in older infants and children. Of course, this series is a comparatively small one and we cannot draw any definite conclusions from it, but it does represent a group of cases which have been carefully analyzed and is as far as it goes, fairly accurate. When it comes to complications, it was a surprise to me to see how many of our cases had been complicated by an otitis media and how relatively few of them had had empyema. I suspect these complications depend a great deal upon the type of infection which happens to be dominant during the period the pneumonia is running its course. We all know that from year to year respiratory infections show an entirely different set of complications; one year it is otitis media, another year acute hemorrhagic nephritis and another year something else. Taken over a ten year period as these figures are, they probably represent a fairly good average. There are certain things that affect the prognosis if I have evaluated the facts accurately. It has been my impression there is a marked tendency on the part of the medical profession to overtreat this disease in children and I fully believe that the common treatment administered is such as to lower rather than elevate the child's chances of recovery. I will speak of this in a few minutes with regard to treatment, but I think it should be mentioned here since it probably does hinder very seriously indeed the question of prognosis. The tendency has been, of course, to treat these children as small adults. In other words, to treat lobar pneumonia in children as you would in adults. I personally, do not believe such an attitude is justified.

TREATMENT

So far as I have been able to judge, no treatment of lobar pneumonia can be regarded as specific. The use of serums and vaccines are, to say the most, in the investigative stage, and as yet I fail to see any evidence that would lead us to the conclusion that we can depend upon such in the treatment of our cases. We are, therefore, limited to the care of the general health of the patient and to the treatment of symptoms as they arise. The care of the general health in the infant and child means practically two things, *nursing care* and *diet*. It seems to me there is one principle in the treatment of these children from the standpoint of nursing care that has not been sufficiently emphasized, and that is the use of judgment in their handling. The child with pneumonia is exhausted by over-handling. Every means should be taken to conserve the strength of the child by leaving it

alone. It is in cases like these where the doctor is at his wits-end to look after the spoilt child. It is here that the spoilt child's life is really jeopardized by its lack of discipline. In the early stages they may not be prostrated and as a consequence they demand what they have been used to. They are not subject to discipline, hence insist that the mother hold them, rock them and play with them. In my opinion nothing could be worse for these children. One thing that nature gives them is their strength and this is exhausted by continual efforts to satisfy a craving which cannot be satisfied. The result is the child wears itself out and everybody else. With such a child, it is frequently a decided advantage to have it in the hospital, not in a private room, but in a ward well-screened where it cannot be subjected to repeated visits on the part of the parents and relatives.

Much has been said regarding the *air* for these children. I have not seen that it makes a great deal of difference provided the child gets plenty of fresh air. By this I mean that it is not necessary to go to great lengths to see that the child has plenty of cold air. It is, however, perfectly true that children with lobar pneumonia are not adversely affected by cold air as near as can be determined, but that cold air is necessary for their recovery I think is doubtful, nor do I think that it has any special effect. Often times because of cold air, covers are piled on the bed with a consequence that the respiration is naturally impeded.

This brings one to the subject of the *clothing*. I think that the pneumonia jacket of by-gone days and fame is probably pretty well discarded. I have never seen that it was of any value in these cases. I have frequently seen that it acted as an impediment to breathing. Of course, what is said of a pneumonia jacket may be doubly said with regard to such applications as the various pastes of a sticky nature which are put on the child's chest. I cannot see how these can possibly do any good and I feel very certain that they do great harm in making it harder for the child to breathe. I need not say that these measures have not been resorted to in the treatment of cases which I am mentioning here. The use of tonics during the course of the disease is not only without value, but it is definitely harmful and the younger the child the more this is true. Practically never is it necessary to give such tonics and all tonics given under these conditions lead to gastric irritation and rejection of food. The answer to the question of *diet* is a definite one. The child takes sufficient food to carry it along and in most instances efforts to increase this quantity only result in rejection and vomiting. Forcing food is a great mistake and should rarely be resorted to. For the infant there is no special reason for changing the formula and for older infants and young children liquid foods are to be preferred. Milk as always is the basis, but we must always more or less cater to the child's appetite and not try to force upon it something that will not be acceptable. Orange juice is peculiarly good if the child likes it because it gives a certain amount of alkalinity which is probably of some value. Attempts, however, to alkalinize these young children frequently result in gastric disturbance, vomiting and refusal of food. This is just another instance of treating the disease and forgetting the child.

When it comes to *symptomatic* treatment, very few symptoms demand attention; in the majority of instances none. Occasionally the temperature is a source of worry. We must remember, however, a temperature of 105 degrees in this disease is not alarming and calls for no special treatment. Hydro-therapy in the form of cold sponges or alcohol rubs, is probably the best of the measures for its control. The antipyretics are not to be considered because of the effect upon the heart. It must be admitted, however, in most instances, the results obtained with hydro-therapy are decidedly disappointing. We must use judgment with hydro-therapy because it is not without possibilities of harm if administered just previous to the crisis, or during the crisis and if the child resists the measures taken and is irritated by them. Most children with lobar pneumonia come through very well without any attention being paid to the temperature.

I am personally strongly of the opinion that many mistakes have been made in the treatment of lobar pneumonia in children by giving cough mixtures. In my experience the cough has been much more disturbing to the family than to the child. The usual cough mixtures which are advised are very irritative and nauseous, resulting not only in the child's vomiting, but in its refusal to take food. We then by giving cough mixtures remove or weaken one of the chief props which help us in saving the child's life, that is, we have destroyed to a large extent the nutritional help which we so much need and desire. No cough mixtures are effective, or have been in my experience, unless the particular ingredient is some form of opium. I have been very much impressed with the observation which has been purely empirical to the effect that children with pneumonia who receive opiates do not do so well. When we come down to the final decision regarding the treatment of the cough in the child, we must therefore consider it from very many different view-points. The first is whether the child will be more greatly benefited by treatment or without it. In a vast majority of cases the cough in lobar pneumonia in infants and young children is not an harassing symptom and the child is far better off without any treatment. If, however, in the judgment of the physician the cough be a serious one then allow me to beg of you not to put together a cough mixture of the usual sort, but to use some simple form of opiate such as, codein, or even morphin in the proper dosage and not disturb the child's stomach by giving a nauseous mixture consisting of ammonia compounds and what not. Let us meet the parents' insistence with a definite statement of the facts; let us treat the child and not the cough and not the disease.

There is one other circumstance which requires special attention and that is the question of heart weakening during the course, or towards the end of the course of a lobar pneumonia. Happily we have to treat in most instances, a heart whose musculature is perfectly strong and active, so that the question of stimulation is not as frequently met with in the young child as in the adult; this probably accounts in a large measure for the fact the death rate in children is so low. The rapidity of the heart rate offers very little information. Very rapid pulse rate is frequently met with in a child who is perfectly comfortable and shows no signs of heart break down. The chief evidence of cardiac failure is usually to be seen in cyanosis, which appears about the lips, nose and mouth. When such occurs, however, we usually stimulate these children; the stimulation to be used is not a matter of great moment. Digitalis in some form, or caffein, seem to both act well. It should be noted, however, that caffein is peculiarly effective at this age. The children apparently have not been accustomed to the use of coffee or tea and consequently get the full effect of caffein stimulation. I rather prefer caffein to other stimulants. In spite of the fact that pharmacologists tell us strychnia is not much of a stimulant, it has seemed to me to have helped out occasionally. I would also like to go on record as much preferring hypodermic medication to oral.

In concluding, I should like to call your attention to two or three things. In the first place, we are treating a child and not an adult. In the second place, we are treating a child and not a disease; and in the third place, we are treating a child and not a symptom, but most of all I want to call to your attention the fact that we are treating a child and not the family. We should not allow our better judgment to be biased by complaining relatives. It is a difficult task to combat the desires of an anxious mother, but if it is in the interest of our patient we must do so. If we simply give these children rest, fresh air and proper commonsense attention to the diet, in the majority of instances that is all they need. We must always be on the look-out for cardiac break down and this is where the chief function of the physician comes. He must be the one to determine whether or not some stimulation is necessary and if necessary, when and how it should be

given. In other words, I consider the treatment of this disease is much like that of normal labor; watchful expectancy.

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UNIVERSITY OF KANSAS MEDICAL SCHOOL CLINIC

The Present Status of Transurethral Operations Upon the Prostate

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During the past year there has been a great wave of enthusiasm among urologists for prostatic resection by transurethral or cystoscopic methods. How this all came about is a long and interesting story. There is no doubt that this closed attack upon the obstructing bladder neck has had its roots deep in the past. Guthrie, in 1832, devised an instrument which was a sharp knife concealed in a catheter and was intended to incise bars at the bladder neck. Mercier, a French surgeon, in 1837, invented an instrument intended for the purpose of cutting out pieces from a prostatic obstruction or bar and his instrument was the very first of the punch instruments, in fact all of the later ones of whatever design or name were all patterned after Mercier's instrument. Neither Guthrie nor Mercier ever lived to see their devices of much practical use. Then after a long interval, Bottini, in 1873, invented a galvano cautery with a blade that could be heated by electricity and incision made through the enlarged prostate. This seemed to be quite an advance for a time, but the results proved to be not very encouraging. In 1888, McGill of Leads began to do partial prostatectomy by the suprapubic route and in 1889, presented twelve cases before the British Medical Association. Fuller in New York and Belfield in Chicago also began to do suprapubic prostatectomy in the 1890's.

The great impetus came when Sir Peter Freyer, then Colonel Peter Freyer, late of the British India medical service and newly settled in London, in his Harley Street office announced in June, 1901, he had successfully and completely enucleated and removed entire, the prostate in four cases. His claims that he was the first to completely enucleate the prostate, and his ignoring of the work of his contemporaries, raised a storm of controversy and criticism that rather enhanced his reputation as "premier prostatectomist" of that day and in a surprisingly short time he had sixteen hundred cases to report, done with his own hands.

About the same time Senn, Albarran, Petit, Moore, Murphy, Bryson, Proust and Young began the perineal attack upon the enlarged prostate and Hugh Young and his school have developed the perineal operation in this country to its highest technical level.

It was soon seen, as pointed out by the elder Keyes, the mortality rates in prostatectomy were terrible, that is, one out of three subjected to operation died an operative death. Many factors with which you are all familiar worked together to better this condition later, but this was in the 1890's. Freudenberg, in 1897, wrote a paper on the Bottini operation and presented an improved instrument. Chetwood, the younger Keyes and others did a modified Bottini operation through a perineal incision. Young, in 1908, presented a punch patterned after Mercier's idea of 1837, but vastly improved. Edwin Beer in New York was the first to make use of the high frequency current to coagulate bladder tumors through a cystoscope. In 1912, Luys in Paris and others then began to use this high frequency current to coagulate the enlarged prostate with the idea that the coagulated portion would slough out and the remainder shrink down. There are many advocates of this procedure each thinking he is the originator of the idea. Caulk, in 1919, presented us with his cautery punch with which you are all familiar. Collings a few years later thought he had something in the way of a high frequency cutting knife with which he could wear away a prostatic lobe by sawing on it. Collings has now joined the resectionists.

This is the way matters stood until 1926. During the year 1925, Maximilian Stern, a New York urologist, began to

work with the high frequency loop and conceived the idea he could cut out the prostatic obstruction bit by bit by this means and devised an instrument made by Rheinhold Wappler and known as the Stern resectoscope. Stern read a paper before the American Medical Association meeting at Dallas, Texas in April, 1926, and reported forty-one cases. No particular stir was made over this presentation and except for the fact that T. M. Davis of Greenville, South Carolina was present, perhaps nothing would ever have come of it. Davis obtained the Stern resectoscope and electrical apparatus for activating the loop and began in earnest to work out a problem for which he could see such vast possibilities.

Then Joseph McCarthy of New York thought this work could be done better through his pan endoscope than with the Stern resectoscope and he devised a semicircular loop to be used free, or loose, in the pan endoscope. Then Davis and McCarthy stampeded all the American urologists into this craze for the transurethral attack. Now that we are into it what is the situation at the present moment? At the New Orleans meeting of the American Medical Association there was a symposium of five papers on this subject and the subject was well discussed. At the American Urological Meeting in Toronto, two weeks later, another symposium was presented and seven papers were read on the subject and it was thoroughly considered from every angle. As near as I can tell there seems to be three or four groups or camps, each with his particular following.

Group one consists of those who favor the punch methods and believe as good work can be done by the various tubular knives, both hot and cold supplemented by coagulation to control hemorrhage. This group is led by Caulk of St. Louis and ably abetted by Bumpus of the Mayo Clinic; each presents an astounding array of cases operated upon.

Group two is the smaller but no less persistent group who still use coagulation to destroy the obstructing prostatic tissue. They are rapidly deserting and going to the third group.

Group three is that ever increasing crowd that should perhaps be known as the "resectionists" who are using one of three or four types of resectoscopes and are by means of the cutting current removing the prostate bit by bit.

Just now groups one and two claim to have invented all the transurethral attacks and they claim to be the real pioneers but the "resectionists" are numerically the strongest and seem to have the best tools to work with. I have been working on the group three method for more than a year and have learned many facts about it. I estimate that eight thousand to ten thousand urologists and pseudo-urologists are busily engaged in this unprecedented but perhaps not wholly unwarranted attack upon the offending prostate. Just what will come out of it is difficult indeed to predict. I venture to say each of the ten thousand who have gone into this will have spent from $500 to $1,500 for new apparatus to the enrichment of the instrument makers before he is through. The pitiful part is that most of this expensive armamentarium will be so much junk within two years time.

No one who has not done at least fifty cases should venture an opinion on this rather involved subject. If anyone believes it to be a minor operation, let him hold his peace until he has done fifty cases.

It is a difficult and dangerous operation and regardless of what salesmen for instrument houses may say, it cannot be mastered by the occasional cystoscopist. As I see it now, about fifty per cent of the benign prostatic obstructions will be amenable to this method. All of the carcinomas of the prostate should be done by this closed method.

What seems to be the advantages to this method?

1. The idea of doing an operation such as this, without cutting, appeals strongly to the patient.
2. There really is a shortening of the time of hospitalization and the period of disability.
3. The results are brilliant in many cases.

4. The results are said to be permanent.

5. It is believed cases can be done by this method that would not stand open operation.

On the other hand, what are the dangers and contraindications?

1. It really takes longer to do this operation properly than to do an open operation. The time factor may be of great importance in certain cases.

2. It is really against all surgical principles to operate in an infected field without adequate drainage.

3. There is no way of tying arteries that may be severed. One must depend upon the uncertainty of coagulation to control hemorrhage.

4. There is grave danger from delayed hemorrhage. The patients must not be dismissed from the hospital too soon.

5. So far adequately reported series of cases indicate the operative mortality is not better than the best in the surgical series.

6. It has not been yet proven the results are permanent.

McCarthy says the prostate is at the cross road but I believe it is the urologists who are at the cross road and the fog is dense.

———R———

Tuberculosis in Tennessee

E. L. Bishop and H. C. Stewart, Nashville, Tennessee (Journal A.M.A., July 30, 1932), call attention to the fact that the Tennessee program of control of tuberculosis as an activity of the state government had its beginning in 1927. This program has been essentially one of field activities, and during the first four years since its inauguration 1,794 clinics have been held, 28,131 examinations made and 5,243 positive cases of tuberculosis found and brought under the active direction of personal physicians. Special field studies of tuberculosis have been in progress during the past two and one-half years. Some of the observations in these studies are presented briefly to indicate (1) the importance of household contact in the spread of tuberculosis and (2) the importance of chronic fibroid cases in the spread of tuberculous infection in this state. The logical means of approach in the control of tuberculosis in Tennessee, in the light of information now at hand, would seem to center around the breaking of the chain of long-continued contact between patients with fibroid and other types of tuberculosis with their household associates. Eventually this would mean the establishment of hospitals or retreats for the care of the patient who is spreading tuberculous infection among members of the family and friends.

LETTERS FROM A KANSAS DOCTOR TO HIS SON

JOHN A. DILLON, M.D.

Larned, Kansas

My dear Boy:

Glad to hear you are launched out in your summer school work and enjoying it. Am more than pleased that you decided upon this rather than remain idly at home this summer. Up until this year it was possible to get a job even if a position was out of the question. Now the jobs are also all taken. Everything looks gloomy and the farmer on whom we depend in Kansas is about ready to take the count. About the only evidence of optimism and prosperity I have seen is when visiting you boys at the university. There the cheery atmosphere of affluence prevails and the spirit of youth seems not to feel the effect of three-cent hogs and six-cent eggs. Of course comparatively few pigs and chickens are raised about the campus. In fact I gather about the only thing that is raised is a loud protest when the check from home fails to get in on time.

The great political conventions are over and the platforms have been duly published in the papers. I have not read one of these creations for a good many years as they are all about the same. I am told that the brand of inspiration now used by the "committee on platform" is more potent than that of former years and that the protestations of patriotism and economy are stronger than ever. I also suspect that the same gallery audeince was used in both conventions at so much per head. At any rate the paramount issue seemed to be liquor. To me the whole thing seems to be a gesture of protest at the foreign racketeers and their official supporters in the cities. I am not a crank on the subject but the assertion that people are better off with liquor is too silly to argue. Not that a glass of good beer will hurt anyone and if this and this only could be legally manufactured we would all say "Amen." I have noted the liquor situation from many angles; from the old saloon days to the present high power home groups where all pass out before midnight,

mother and daughter included. It was bad enough when men met at the bar, drank for hours, argued politics, leaned on each other's shoulders and tearfully told what a "h—l of a fine wife they had—fill 'em up again." But now we have the mixed parties with attendant and greater evils. It is next to impossible after taking a few drinks of the present panther juice for a man to distinguish his wife of 180 pounds displacement from his neighbor's who weighs one hundred twenty and is a decided blond. The young lady of high ideals who has been carelessly dragged out on the porch after her passing is apt to come out of it with an awful headache and a greater heartache. The great trouble with liquor is it makes people spend money they cannot afford and do things that cause regret and shame afterwards.

Your mother tells me that you registered for the primaries when you were home but she did not know to which great party you pledged allegiance. Of course if you inherited stronger from the maternal side you will follow the teachings of Jackson, Cleveland and Wilson. If the paternal predominates you will lean to Lincoln, Roosevelt and Coolidge. If you have been a close observer you have noticed that politics in our home have been touched on at rare intervals. The reason for this is I tried for several years to convince your mother of the uselessness of the Democratic party and she, Southern by birth and sentiment, tried to impress me with the logic of the statement of the Arkansawyer who said he was thirty years old before he knew that "dam Republican" was two words. So after many heated discussions we agreed to disagree. However, this genial understanding does not prevent us killing each other's vote every four years. You have also noted that I played fair in the game and have never suggested in any way that you should ally yourself with the party of your father. Frankly I can see no difference between the two great parties. There used to be issues that appeared important and outstanding. But now that the Republican party is mostly wet and the Democratic all wet, the last difference has vanished. Tariff and free trade campaigns which prompted me to march with a greasy torch and a Roman helmet along side two or three hundred other morons has gone the way of free silver, imperialism and "he kept us out of war."

It is possible that some party spell binder may in the coming campaign be able to get up a parade and enlist you and other youthful voters into its cheering ranks. I cannot conceive of such a thing but you know what Barnum said. Nevertheless I urge you to study the questions of the day for sometime there will be a demand again for brains at Washington. Of late years it seems to the average voter as though the opposite were true. I am carried back in memory to the political times of my youth—"Them were the days." How we shouldered our torches and wore caps and regalia emblematic of our party! Quite a number of imbeciles and renegades were also enrolled under the banner of the opposite party and carried on as lustily as did we of the intelligentsia. In my youthful fervor I could not understand why anyone should not crave a full dinner pail as our party promised. I was also puzzled to learn that some people were against a high protective tariff and were in favor of admitting spaghetti and Egyptian mummies into this country free. I have had many an acrimonious debate with a free trade zealot trying to convince him how foolish it was to ruin our mummy industry which was struggling for its very existence. Since that time when paying $12.00 for a pair of shoes I have modified my views on the tariff.

The young people took much more interest in politics than do the youth of today. We had no autos, no radios, no moving pictures to discuss so politics filled in very nicely for light conversation with a friend or for the more enjoyable pastime of insulting some one who took the opposite view. Even the ladies joined in the game with enthusiasm and a woman member of a Bryan club wearing a jaunty cap looked with disdain on the lady of the McKinley club who also wore a jaunty cap plainly adorned with the party slogan. There was no question

in the minds of these ladies but that the country would perish from the earth should the opposite candidate be elected. And they were willing to back up this belief with argument, taunt and finger nails if necessary.

McKinley and Bryan are gone. The ladies have passed from the sinuous twenties through the buxom thirties and are now in the grandmotherly fifties and sixties. They have long since forgotten the free and unlimited coinage of silver and the full dinner pail. But strangest of all the country has gone on steadily only taking a few months' rest every four years when the saving process is gone through, and I predict it will still go on in spite of the colicky dissensions of politicians either Democratic or Republican. And while Old Glory may hang in wilted disgust at times these times will be infrequent. More often she will ripple proudly in the breeze; proud of the continent we call the United States of America; proud of the great institutions of learning; but most of all proud of the blatant, inconsistent, radical, illogical, irresponsible individual we call the American citizen.

Love,

DAD.

P. S. Your brother is home and between swimming, joy riding, playing tennis and looking for a job, he is fairly busy. Some day he is going to be offered work and it will be very embarrassing for him.

———R———

Treatment of Agranulocytic Angina With Calcium Gluconate

R. A. Hare and J. H. Childrey, Santa Barbara, California, (Journal A.M.A., June 25, 1932), report a fatal case of agranulocytic angina which was interesting because the patient was an allergic individual, and because an improvement in the blood picture was noted following the administration of calcium gluconate. Of interest also were calcified deposits on the frontal bones, an exostosis of the hard palate and calcium-like deposits in the sloughs from the mouth, all of which suggested disturbance of the calcium metabolism. The appearance in the blood of granulocytes on the fifth day following the administration of calcium gluconate suggests that this agent may be of therapeutic value. Its use was suggested by the work of Tunnicliff, who has demonstrated, following its administration to rabbits and to a man, an increased phagocytosis by leugocytes in the blood.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of
The Kansas Tuberculosis and Health Association

Old Tuberculin discovered by Robert Koch in 1890 is a mixture of the bouillon and all metabolic products of the tubercle bacilli grown on it. Greater precision of the tuberculin test is highly desirable and for this a more specific and less variable testing substance is necessary. The chemistry of the tubercle bacillus has for some years been studied by investigators selected by the Research Committee of the National Tuberculosis Association, of which William Charles White is chairman. One of its results has been the isolation of a protein, which is designated as *MA100*. This substance causes the typical skin reaction in persons infected with tubercle bacilli. To test the reliability and practicability of it a study was carried on co-operatively by a number of workers. An analysis of the results is reported by Mariette and Fenger in the March, 1932, American Review of Tuberculosis.

A NEW TUBERCULIN

MA100 is obtained from different types of tubercle bacilli and the timothy-grass bacilli. The protein is identical with the original tuberculo-protein isolated by Seibert. The bacilli are grown on Long's medium, a synthetic medium of fixed-standard composition, which is protein-free before culture. After growth the bacilli are removed by filtration and the protein of the medium is precipitated at a given isoelectric point by glacial acetic acid. Thus the identical substances are constantly brought down and these are not subjected to any denaturing process with heat or chemicals. The diluent was normal saline solution. Thus the testing substances contain no phenol or glycerine.

Four types of acid-fast bacilli were used, namely, the human, the bovine, and avian types of tubercle bacillus and the timothy-grass bacillus. The corresponding proteins obtained have been designated as *MA100 Human, MA100 Bovine, MA100 Avian, and MA100 Timothy.* The origin and virulence of each of the

strains of bacilli from which the protein substances were derived, is known. The O. T. used for comparison also is of known derivation and sensitivity. Therefore, the reactions obtained can be safely compared and checked.

Old Tuberculin, as it is now marketed, is standardized on the basis of the minimum dose required to kill a tuberculous guinea pig. It has recently been shown, however, that O. T. contains a polysaccharide which is equally as lethal for tuberculous guinea pigs as is the acid-fast bacillary protein, but it produces no reaction when injected into the skin of tuberculous animals. Thus, standardizing tuberculin on the basis of the minimal lethal dose tells us nothing about its skin-testing potency. As a consequence, O. T. is known to differ as much as 400 per cent in that respect.

Procedure

For this study, the dosage of O. T. was established at 0.01 mgm. The MA100 human protein was diluted with normal saline solution to give the same skin reaction as that obtained with the established dose of O. T. This proved to be 0.000,5 mgm. If the skin reactions to these doses were negative at the end of 48 hours, the test was repeated with double the dose. The amount of MA100 of the several types necessary to produce a reaction comparable with that of the established O. T. was found to vary so that the following dosages were finally determined.

Tuberculin O. T.	0.01	mgm.
MA100 Human	0.0005	mgm.
MA100 Bovine	0.0001	mgm.
MA100 Avian	0.001	mgm.
MA100 Timothy	0.01	mgm.

Questions Investigated

Answers to five questions were sought.

1: *Is the MA100 human protein more sensitive and more selective than O. T.?*

A total of 2,328 individuals were tested simultaneously with O. T. and MA100 human. The group included general hospital patients, both adults and children, sanatorium employees ranging in age from 17 to 73, a general population group composed of nurses in general hospitals, medical students and school children in a rural section. The results are presented in detailed tables in the original article. It was found that more individuals reacted to the MA100 human protein than to O. T. and this was true of known cases of tuberculosis as well as in the general population group.

2: *Are the doses recommended safe or are dangerous reactions encountered?*

The reactions to the initial dose of O. T. and to the different MA100 proteins were compared. Reactions were recorded as plus one to four. Necrosis is associated only with a four-plus reaction and of these there were none in the series. There were no constitutional reactions in any of the tests but there were seven reactions which might be called disagreeable in that they were accompanied by lymphangitis or enlarged, painful axillary lymph nodes or superficial vesicles, which were not followed by or associated with necrosis. None of the reactions might be called dangerous. Two of the seven disagreeable reactions occurred with O. T. One with MA100 human protein, one with MA100 bovine protein, two with MA100 avian and one with MA100 timothy.

3: *Are the doses recommended and used in this study large enough or should they be increased?*

Of 540 clinically tuberculous individuals 91.1 per cent reacted to the established doses MA100 human protein. In another group of 314 clinically tuberculous individuals 92 per cent reacted to both the initial and repeat doses of MA100 human protein. The 8 per cent of this group who failed to react either died or left the sanatorium before the test could be repeated.

By means of another series of tests, an attempt was made to determine whether or not a higher dose would yield a higher percentage of positive reactors. The authors conclude that the doses of the MA100 human protein as recommended (0.0005 mgm. and 0.001 mgm.) are apparently large enough and, therefore, need not be increased.

4: *Are the various MA100 proteins specific in that they will pick up only infections by the bacillus from which they are isolated?*

An analysis of the percentages of positive reactions in several thousand indi-

viduals tested with O. T. and the different MA100 proteins justified the authors in concluding that the bovine, avian and timothy MA100 proteins are not specific. They question whether O. T. in high concentration of a mgm. or more is specific. In small doses of O. T. and MA100 human protein, the reaction is apparently specific.

5: *Is there a protein substance common to all acid-fast bacilli?*

Comparison of reactions from O. T. and the several MA100 proteins lead the authors to conclude that there is apparently a protein substance common to all acid-fast bacilli, which if given in large enough doses will call forth a typical tuberculin reaction in just as large a proportion of the people as does O. T.

Conclusions

1. The MA100 human protein is as sensitive and as selective as O. T., and probably more so.
2. The initial and repeat doses recommended for the MA100 human protein are safe in that dangerous reactions are not encountered.
3. The initial and repeat doses recommended for the MA100 human protein are large enough to pick out the majority of tuberculous individuals and apparently do not need to be increased.
4. The MA100 proteins are apparently not specific in large doses at least.
5. There is apparently a protein substance common to all acid-fast bacilli, which, if given in large enough doses, will elicit the same type of reaction as that obtained from Old Tuberculin.
6. As the MA100 protein represents a substance in a purified form which can always be reproduced at the same isoelectric point and which can be weighed out in milligram doses, so that the exact milligram content of the solution is known, it is a better testing substance than Old Tuberculin.

Among the workers mentioned by the authors as participators in the study are:

Elmer H. Funk
F. M. Huntoon
H. J. White
J. Aronson
Fred Carter
Everett K. Geer
Harold Diehl
Peter Masucci
Kenneth L. McAlpine
Esmond R. Long
Professor H. Valée
L. Van Es
Edward R. Baldwin
M. Dorset
D. R. Hastings
Florence Seibert
Parke, Davis & Co.
H. K. Mulford Laboratories
M. I. Smith
W. H. Morriss
John Reichel
National Institute of Health

The present Status of the Skin Reaction in Tuberculous and Non-tuberculous Subjects, E. S. Mariette and E. P. K. Fenger, in collaboration with Elmer H. Funk, F. M. Huntoon and H. J. White. Am. Rev. of Tuberc., March 1932.

———R———

THE PHYSCIAN'S LIBRARY

Bing, The Story of a Tramp Dog, by Thomas C. Hinkle, author of Tawny, Black Storm, Shag and Tornado Boy. William Morrow and Company, 386 Fourth Avenue, New York City. Price $1.75.

Bing, a white and silver collie, a tramp dog, the son of a tramp mother, finally found a friend in Joe Harlan who gave him a home. A killer dog appeared in the peaceful Kansas valley (the story is laid in Kansas) and hogs and sheep were mysteriously slaughtered. Naturally, suspicion fell on Bing, for he had a reputation as a fighter. Bing and Joe fought a lonely fight for vindication, and in the climax it was Bing who killed the killer.

Unsual interest is attached to this story for two reasons: first, the author is a resident of Kansas, living at Carbondale, and his story is of Kansas, and second, the author is a physician and a member of the Shawnee County and Kansas Medical Societies.—E.G.B.

Medical Clinics of North America: (Issued serially, one number every other month.) Volume 15, No. 5. (New York Number—March, 1932). Octavo of 340 pages with 61 illustrations. Per Clinic Year, July, 1931, to May, 1932. Paper, $12.00; Cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company, 1932.

This volume of the Clinics is from New York and includes nearly 400 pages of clinical material on a large variety of medical subjects. Mosenthal writes the leading article on "The Clinical Aspects of Bright's Disease," discussing particularly the chronic diffuse glomerular nephritis. There are other excellent papers on Epidemic Poliomyelitis, Pulmonary Edema in the Course of Lobar Pneumonia, Pyloric and Duodenal Stenosis, A Series of Staff Conferences of the Neuropsychiatric Division of the New York

Post Graduate Medicine School, Rheumatic Fever in Childhood, Congenital Heart Disease, Radiology of the Heart, all contributed by leading physicians in New York. There are several other fine article in this volume.—W.C.M.

Medical Clinics of North America. (Issued serially, one number every other month). Volume 15, No. 6. (Mayo Clinic Number—May, 1932) Index Number. Octavo of 239 pages with 31 illustrations. Per clinic year, July, 1931, to May, 1932. Paper, $12.00; Cloth, $16.00 net. Philadelphia and London. W. B. Saunders Company, 1932.

This issue is published from the Mayo Clinic and includes 22 articles from leaders of the various departments of the Rochester Institution. The list of titles includes Chronic Ulcerative Colitis, Progressive Lipodystrophy, Ascites, Fish Liver in the Treatment of Pernicious Anemia, Atypical Exophthalmic Goiter, Psoriasis, Postural Sciatica, Uremia, Jaundice, Colonic Obstruction, Acute Cardiac Infarction, Myocardial Rupture, and other subjects. One of the most practical articles in this whole volume is one by Alvarez on "Patients who are Incapacitated by a little Indgestion." This volume is particularly valuable as are all of this series because of the very practical nature of the majority of these papers. They are all clinical reports rather than simple scientific treatises. They are much more practical to the general practitioner than are many of our medical journals whose articles are so often highly technical that they are difficult for practical application.—W.C.M.

Medical Clinics of North America. (Issued serially, one number every other month.) Volume 16, Number 1. (Philadelphia Number—July, 1932). Octavo of 280 pages with 75 illustrations. Per Clinic year, July, 1932, to May, 1933. Paper, $12.00; Cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company, 1932.

This issue of the Medical Clinics appears from Philadelphia where 26 physicians and their co-workers contribute clinical material. This issue includes a list of titles dealing with Schizophrenia, Prevention of Heart Disease, Injury to the Spinal Cord, Healing of Gastric Ulcer, Prevention of Coronary Occlusion, Pernicious Anemia, Masked Hyperthyroidism, Purpura Hemorrhagica, Infantile Scurvy, Obstetrical Paralysis, Management of Ascites, Congenital Heart Disease, Thyroid Heart Disease, and many other very practical papers, for the general practitioner.—W.C.M.

Practical Treatment of Skin Diseases by Edward Ahlswede, M.D., of New York City and Hamburg. Formerly Assistant Physician, University Skin Department, Direction of Prof. Unna Eppendorf Hospital, Hamburg. Foreword by Howard Fox, M.D., and Prof. P. G. Unna. Large Octavo, Cloth, 798 pages, 77 illustrations. P. D. Hoeber, Inc., Publishers, New York City. Price $12.00.

Compiling a manual of treatment of skin diseases represents an immense amount of work. Ahlswede has given us a book that must have necessitated years to collect the material.

The arrangement of the book is especially simple, and lends itself to rapid reference. Each disease is listed alphabetically. A concise description of signs and symptoms is given, then a short differential diagnosis of the more important diseases, and a synopsis of treatment is set down before the detailed therapy is outlined.

The thoroughness with which the subject matter is treated makes this a valuable book for both general practitioner and dermatologist.—E.H.D.

The Technique of the Non-Padded Plaster Cast, by Fritz Schnek, M.D., First Assistant at the Accident Insurance Hospital in Vienna, with a preface by Lorenz Böhler, M.D., Director of the Accident Insurance Hospital in Vienna. Authorized English Translation by Douglas D. Toffelmier, M.D., Oakland, California, with 169 illustrations, 1932. Price, Cloth, $5.00—postfree. Wilhelm Maudrich, Medical Bookseller and Publisher, Vienna IX Spitalgasse 1B, Austria.

This translation of Dr. Fritz Schnek's work by Dr. Douglas D. Toffelmier, on the technique of the non-padded plaster cast is a detailed description that is most instructive.

The proper technique in the application of casts is none too well known by the average doctor, and the use of the non-padded cast, far less known. The precautions in technique are emphasized in connection with various types of fractures. The value of immobilization with plaster in the treatment of wounds is described.

The non-padded plaster technique is that used in Dr. Böhler's Clinic in Vienna—a clinic well known for the efficient manner in which fractures are handled. Dr. Böhler states: "the treatment of any fracture has two constant requirements—good reduction and uninterrupted fixation until bony union takes place. . . . In the majority of cases the non-padded plaster cast affords the best means of maintaining the fragments in good position."—M.B.M.

THE JOURNAL
of the
Kansas Medical Society

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EDITORIAL

MAGGOTS IN THE TREATMENT OF CHRONIC BONE INFECTIONS

The method of treating chronic osteomyelitis with live maggots is of comparatively recent development, but unusual results have been reported by many using such treatment. Medical literature, however, as early as the 16th century carries references to worms and disease.[1] Zachman in 1704 wrote of the origin of maggots in wounds, while Baron D. J. Larrey noted the beneficial effects of maggots in infected wounds of soldiers.

The maggot treatment of chronic bone conditions was revived by the late Dr. William S. Baer who served in the American Expeditionary Forces. Dr. Baer observed many soldiers who had suffered compound fractures and lain on the battlefields for many days when brought to the hospital, had no temperature or evidence of sepsis. When the debris was removed from the wounds, the tissue was found to be healthy. Animal experimentation followed, with eventually the application of the maggot treatment to certain chronic conditions.

Presumably, maggots were effective because of their mechanical action; they were supposed to destroy and digest bacteria, as well as dead tissue, thus rendering such matters inert. By their motion, they stimulated a rapid outpouring of the blood serum, which of itself, is healing, with an increase of the PH of the wound. In the early stages of treatment it was noted the maggots would live until replaced, but after the fifth application would live but a short time. Death occurred because the PH of the wound had increased and some substance was produced through contact of the live maggots with the tissues which so increased its virulency that the maggots were killed by its potency. For lack of a better name, this substance has been designated as a "therapeutic active principle."

Further investigation, however, has shown the mechanical action of maggots was not alone responsible for the excellent results obtained, but an additional substance was responsible for affecting cures. Livingston and French[2] in a recent report state this substance is contained within the body of the maggots and was secured by grinding live maggots in sterile solution and filtering the product through coarse and fine Berkfeld filters. Due care was taken to insure sterility and solid substances were secured which to date are of unknown composition. Analyses are now in progress to prove the nature of these healing substances. The vaccine used by these authors was an autogenous or polyvalent suspension of killed organisms, counted and fortified by the active principle and tested for sterility. It was determined a vaccine of killed organisms in saline solution without the active principle fortification was not sufficient.

Report is made of a series of 100 cases

1. J.M.S.N.J., February, 1932.

2. J.A.M.A., April 2, 1932.

of chronic osteomyelitis, infected wounds and compound fractures which have been treated with the active principle and vaccine, with or without the use of live maggots, with 88 per cent of the cases successfully healed. In three cases of chronic discharging middle ear disease, the auditory canal was packed daily with cotton pledgets of the active principle and inoculated every fourth day with the autogenous vaccine. The discharge disappeared after two weeks' treatment. At the present time, cases of chronic leg ulcers, and sinus and mastoid infections are under treatment with the active principle or vaccine, but not using live maggots.

In various medical centers, both large and small, the maggot treatment is being used successfully in the treatment of chronic bone infections, which previously had not responded to other types of treatment. From the evidence obtained, medical science has again made tremendous strides in the treatment of another type of chronic disease.

A FULL-TIME SECRETARY

At the annual meeting last spring, a resolution was presented empowering the Council "to arrange for the reorganization of this Society and to provide for the employment of a full-time lay executive secretary." Further provision was made the Council "shall complete its work and shall inaugurate the new program which it adopts not later than the first day of November, 1932." Following discussion of the question at both meetings of the House of Delegates, and on motion, a committee was appointed to study the advisability of the society employing a full-time secretary, report to be made at a called meeting of the Council in Kansas City, without expense to the society, at the time of the fall clinics.

The plan as proposed was not in any way a reflection on the ability or the work of the officers of the society. Naturally, the officer of any organization who is employed full-time, devotes his entire time to the work of the organization he represents. Consequently, a full-time secretary would give his entire time in the interest of the organized medical profession.

According to information available in the Journal office, 14 state medical societies employ a full-time secretary. Eight of these, namely, Colorado, Indiana, Iowa, Maryland, Ohio, Oregon, West Virginia and Wisconsin employ a lay secretary; California, Maine, Massachusetts, Minnesota, Missouri and Texas employ a full-time secretary who is a doctor of medicine. The salaries received by lay secretaries vary from $3,600 to $8,000, with an average of $5,770; the minimum salary of the medical secretary is reported as $3,000, maximum $7,245, the average being $4,620.

Members of the Ohio society pay annual dues of $5.00, but the membership totals more than 5,500; Indiana dues are the same as our own society, while the other twelve have annual dues ranging from eight to twenty-two dollars. The societies of Maine and Oregon, each have approximately 700 members with annual dues of $8.00 and $20.00, respectively; the Colorado and West Virginia societies, each have more than 1,100 members with annual dues of $10.00. Maryland has approximately 1,500 members; the total membership of the remaining nine societies ranging from 2,300 to more than 7,000. Only two societies report a sufficient income at the time of employment of the full-time secretary that it was not necessary to raise the dues. With one exception, the editor of the Journal, regardless of whether or not a lay secretary is employed, is a graduate physician.

The full-time secretary, if employed, in reality would be the business manager of the society. The Council and regular com-

mittees would lose none of their power, and undoubtedly would be more active in society affairs. It is not believed the full-time secretary could arrange more attractive programs for the annual meeting, but probably could stimulate the attendance for he would make personal contact with all of the component societies at their regular meetings. Prior to the meeting of the legislature, he could make a tour of the state, become personally acquainted with each member of the House and Senate and present for their consideration the attitude of scientific medicine. It would be possible for him to be in daily and constant attendance at the legislative sessions and, through the legislative committee, keep the members advised as to contemplated medical legislation. He would, in addition, have many other duties.

The executive secretary of the West Virginia society reports as follows: "There were 950 members when dues were raised and a secretary employed; about 50 dropped out. Since then membership has gradually increased to 1,150, or 75 per cent of eligible physicians in the state." The attitude of Oregon is expressed: "It was necessary for our society to raise its dues because at the time the plan of employing a full-time executive secretary was adopted in 1926 the membership consisted of only 500 members paying $5.00 per year. It might be of interest to you that since the employment of our full-time executive secretary the membership has increased to approximately 700. In other words, the attitude of the members in the long run is determined not by the amount of the annual dues but with the results obtained by the society with the money it receives. Of course there are always objections by members to raising dues but the objections diminish as the beneficial results of the full-time executive secretary are demonstrated."

Nebraska advises: "We have an organization that up to the present at least, most of us like better than a full-time secretary. A plan for a full-time secretary has been voted down almost unanimously three times recently. We have four committees in particular that we believe do better work than any one full-time man could do. We are also fortunate in the men who are at the heads of these committees especially, but the members are all active and like the work. These committees have expense accounts and in two cases small salaries. In other words most of us believe that it is much better to have a large group of men working for the good of medicine, than to have a one-man organization which is liable to happen with a full-time secretary." Illinois does not employ a full-time secretary, their attitude being expressed: "The Illinois State Medical Society does not believe that a full-time executive or lay secretary can assume the viewpoint of a medically trained secretary. Our work is so divided that we do not need a full-time secretary or business manager, because we conduct our legislative, medico-legal, educational and editorial work by different individuals, believing it impossible to get one executive official who could do that work so well, alone. We have approximately 7,500 members in our society."

The attitude of the Michigan society is "that it would be a grave error to employ a non-medical secretary. If any change is made, secure an M.D., and pay him well. You will profit more."

E. A. Meyerding, M.D., of Minnesota, replies: "A recent survey of a state with a population of a little over two and one-half millions showed from the state income tax returns that the income of the profession in that state was seventeen and one-half million dollars. Members of the state medical association pay $15.00

dues, or a total sum of approximately $30,000. This is .0017 per cent that is paid to protect this enormous business. A study will show there is probably no business, profession or employee group who pay so little to safeguard their interests."

The American College of Physicians and the Southern Medical Association employ lay secretaries; the secretary of the American Medical Association is a graduate doctor of medicine.

It would appear there are adequate reasons for the employment of a full-time secretary, although serious consideration must be given to the cost. On account of business conditions, it would undoubtedly be unwise at the present time to increase the dues which might result in a loss of membership. If a full-time secretary is employed, regardless of whether he is a lay executive or a member of our profession, he must be tactful; accept with a smile the criticisms, just or unjust; keep absolutely free from any cliques and not mix in medical politics in any way.

The recommendations of the committee will be awaited with interest by all members of the society.

Since the foregoing was written additional information has been received. New Jersey employs a full-time secretary (graduate in medicine) at $8,000 per year, who is also editor of the Journal. Georgia employs a full-time lay secretary but the amount of his salary was not stated.

EDITORIAL COMMENT

Note the Journal advertisers listed in the advertising section. Write for literature and free samples.

The Committee on Foods has recently announced the acceptance of Cocomalt, manufactured by the R. B. Davis Company. Claim is made that one ounce of Cocomalt, which is recommended for each glass of beverage, contains from 40 to 45 vitamin D units (Steenbock) and richly contributes to the vitamin D dietary needs of the body.

Several months ago, announcement was made that endemic typhus fever which had been recognized for several years in the United States, had been shown to be transmitted by fleas. Additional studies indicate the rat flea is the transmitting agent. The work has been proven by laboratory experiments and by field studies, all of which have been conducted by the United States Public Health Service. There seems to be ample evidence endemic typhus fever is spread from rat to rat by the rat flea, and from rat to man by the same agency.

Deficiency in the payment of first-class postage on specimens sent to the state board of health laboratory at Topeka, may cause delay in receipt of the reports. Because of the great increase in the number of packages which do not carry sufficient postage, the director of the laboratory, hereafter, will not accept such packages and consequently they will be returned to the postoffice for collection of due postage from the sender. In the last week of July, postage due on specimens received at the laboratory amounted to more than one dollar per day.

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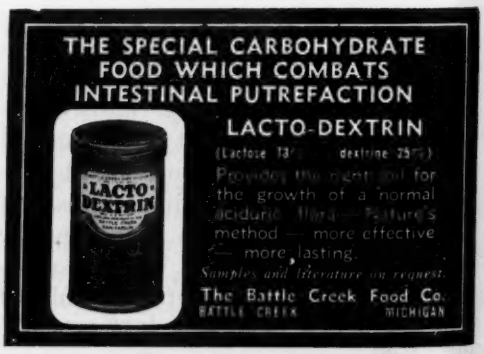

THE LABORATORY

Edited by

J. L. LATTIMORE, M.D., Topeka

In this short discussion I shall endeavor to present some of the more salient points in regard to allergy, anaphylaxis, protein sensitization, serum sickness and specific hypersensitiveness, as these terms are interchangeable and are used by most of us to indicate the same or similar condition.

A great number of individuals are sensitive to some foreign protein, many to such a slight degree that we pay little heed; others to such a degree they suffer from hives, hay-fever, asthma, eczema and associated conditions due to the action of some foreign protein. This protein may at times produce death in a very short time, even one minute, as in the case of a wasp sting. There are so many manifestations that even the men who are doing investigative work in this specialty are unable to arrive at a definite classification.

However, it is not the object of the writer to go into all the details covering the above subjects, neither time nor space permit such. I shall bring to your attention a part of the subject, allergy, which at the present time concerns a great number of physicians in Kansas.

The diagnosis and treatment of hay-fever has a very sound theoretical base and as a rule, failure to obtain good results is caused by failure in either the correct diagnosis or the proper treatment. In hay-fever, there must be some offending pollen or pollens, with which the patient comes in contact. I believe a thorough history often assists in at least limiting the number of offending pollens. As a rule, our pollens in Kansas are in four general groups. The first group (seasonal) is the pollen from trees and these pollinate in April and May, some years in the latter part of March. The second group is composed of those plants that pollinate in June and July and usually the following plants are the cause of hay-fever occurring at that time of the year: red sorrel, blue grass, orchard grass, lambs quarter, timothy, red top, sudan grass, English plantain, Russian thistle, spiny amaranth and western water hemp. The third group overlaps the last group to a certain extent, for the last five and lambs quarter pollinate in August, as well as the following: pigweed, Palmers amaranth, ragweed and cocklebur. The fourth group causes little trouble and is composed of the cedars and sages.

If the physician will take ample time to go over the entire history of the patient, onset, duration and symptoms, it is evident he can limit the possible offending pollen to a comparative small group. There are exceptions to this rule as there are flower pollens which cause some trouble, but these are uncommon. It would appear silly to test a patient for ragweed when the patient gives a history of onset in June; likewise to test a patient for tree pollens, when the history would plainly indicate that their trouble starts in August. A fairly common error in making the diagnosis is the assumption that when one positive is obtained, that is all that is necessary and to proceed with treatment. I believe it a good policy to test for all possible offending pollens in that season. Another source of error is the type of skin test. In my own experience, I find the dried pollens are not as satisfactory as the liquid suspensions. The first test should always be the scratch test, as in vaccination for smallpox. If the patient gives a negative, the physician then should resort to the intradermal test. Some very unhappy results have occurred, however, where intradermal tests have been used without first the skin test.

After definitely determining the offending pollens, the question of treatment comes and this always brings up the question of from whom shall one purchase the extract. I believe the majority of the standard houses will deliver a good, potent extract. My early failures were the result of impotent extracts. Certainly the theory of treatment of hay-fever is sound. Here we have a pollen, an offending protein that the patient is unable to stand. At first our treatment starts with a small dose of this offending material, followed by a slightly larger

dose, then a larger dose and so on, until the patient is receiving as much pollen in a given dose as he would obtain from the air. Most houses have established a rule that it requires about fifteen doses of pollen of increasing strengths to equal the amount the patient would obtain from the air. However, there is an individual factor involved. After the extract is received and properly diluted, I would first resort to an intradermal injection of a very weak dilution, say a drop of a 1:100,000. If no local reaction is obtained, you may try a drop of the 1:10,000. In some cases the patient may be so sensitive that even higher dilutions will be required. After determining the dosage with which you will start, set up a definite schedule for the patient. I would never attempt treatment unless at least fifteen days will elapse before the onset of symptoms. Some workers, however, attempt treatment with two daily injections. I consider this unsafe for the physician; better, to make injections every other day, which would require about thirty days to develop a tolerance. Probably the most important point in treatment is: never permit the patient to leave the office immediately. Make a hard and fast rule they shall remain at least thirty minutes, otherwise you may make a rush call to relieve the patient and when you arrive, learn he has just died. Personally, I resort to large doses of adrenalin when the patient shows a definite reaction. You will not mistake the reaction: free perspiration, hard breathing, fast pulse, marked hives. I would never wait for the stage of hives to develop for when the patient complains of hot-flashes, begins to perspire excessively and shows some respiratory symptoms, administer adrenalin at once.

In presenting this article, I have tried to stress the important points for the physician in diagnosing and treating a case of hay-fever.

RECENT MEDICAL LITERATURE

Edited by
WILLIAM C. MENNINGER, M.D., Topeka

AURICULAR FIBRILLATION

Weisman presents a study of twenty-eight cases of auricular fibrillation in which the patients were treated with quinidine; four did not continue treatment, so that only twenty-four were treated satisfactorily by the ambulatory method. In 17 of the 24 cases, normal rhythm was restored. Tincture of digitalis is always given first, preferably for a few days. If the heart is decompensated the patient is well digitalized until there is evidence the heart is fully compensated, or nearly so. Quinidine is then given in small doses. The first day 0.1 gm. is given; the following day 0.2 gm., and the third day 0.4 gm. The patient is given 0.4 gm. per day for five days. Every two hours 0.1 gm is taken. At this point the dose of digitalis may be reduced or discontinued, depending on the degree of cardiac compensation and the heart rate. On the seventh day the dose of quinidine is increased to 1 gm per day, 5 grains (0.324) every two hours until three doses have been given. After a few days, if necessary, the dose is increased to 20 grains (1.3 gm.), 5 grains being given every two hours until four doses have been administered; then the dosage is increased to 30 grains (195 gm.), 10 grains (0.65 gm.) every two hours. As much as 40 grains (2.6 gm.) per day was given in 10 grain (0.65 gm.) doses at two hour intervals. As soon as the rhythm of the heart becomes regular the dose of quinidine is reduced, and a maintenance dose is established. This amount may be about 10 grains per day for several days, then 5 grains in single doses. Only two accidents occurred during the treatment: one death from coronary thrombosis and a case of hemiplegia. At the same time Levine, from a study of thirty-six experiments performed on cats, found that quinidine sulphate definitely inhibited the facility with which ventricular fibrillation could be produced by cardiac stimulation. It was also found that this effect could not be attributed to manipulation

of the heart and the resulting fatigue of the muscles or to the time consumed in the experiments. The author suggests these results offer a rational background for proper quinidine therapy as a method of preventing sudden death in those conditions in which ventricular fibrillation is prone to occur.

(Auricular Fibrillation: Ambulatory Treatment with Quinidine; S. A. Weisman, Archives of Internal Medicine, 49:727-735, and Effect of Quinidine Sulphate in Inhibiting Ventricular Fibrillation: An Experimental Study; Harold D. Levine, Archives of Internal Medicine, 49:808-816, May, 1932.)

CAUSES, CLASSIFICATIONS AND DIFFERENTIAL DIAGNOSIS OF ANEMIAS

The authors present a table showing the results of the most important examinations in the different types of anemia, together with a discussion of the fundamental causes of anemias and the differential diagnosis of clinical anemias. A theory of the etiology of pernicious anemia is advanced, and the following conclusions are drawn; first the term "secondary anemia" should be discarded as it is not sufficiently descriptive and anemias formerly grouped together under this term differ widely in etiology, symptomatology, blood findings, and in response to different types of therapy. An accurate diagnosis of the etiology is essential to the proper treatment of anemias. To facilitate this differential diagnosis, a table is presented in this report, which gives the more important laboratory and clinical findings with the chief therapeutic indications in twenty-eight of the more important conditions which may cause or be confused with anemia. A cause for anemia may exist without the development of actual anemia, since it is possible for blood regeneration to keep pace with blood destruction or with hemorrhage. There are only three fundamental causes of anemia: deficient formation of red cells or hemoglobin; excessive destruction of red cells or hemoglobin within the body, and loss of red cells and hemoglobin from the body. Clinical anemias should be studied with the object of determining what is the relative part played by each of these fundamental factors in any individual case.

(Causes, Classification and Differential Diagnosis of Anemias: Based on the Detailed Examination of Over Two Hundred Patients and a Study of the Literature; Osgood, Edwin E., & Haskins, Howard D., Annals of Internal Medicine: 5:1367-1376, May, 1932.)

PREGNANCY AND DIABETES

Bowen and Heilbrun present five cases of pregnancy and diabetes and also a review of the literature since insulin has come into common use. The question of the effect of pregnancy upon diabetes is still controversial, and the authors were particularly interested in analyzing case histories from this standpoint. Following each case presented, a comment follows on that particular case and the following summary is drawn: First that insulin as it is used today has markedly lowered the mortality rate of the pregnant diabetic woman and considerably enhanced the chances of preserving the life of the baby. Both of these improvements, are far from the obstetrical ideal. The greatest danger for both the mother and the child is acidosis and coma. There seems to be a great variability of tolerance and insulin requirement during both the pregnancy and the puerperium. The nature of this is without adequate explanation. The clinical evidence supports the view that pregnancy increases the severity of the diabetes, at least temporarily, in the majority of instances.

(Pregnancy and Diabetes, With a Report of 5 Cases and a Review of the Literature: Bowen, Byron D. & Heilbrun, Norman: The American Journal of the Medical Sciences: 183:803-811, June, 1932.)

CARDIAC MANIFESTATIONS OF HYPERTHYROIDISM

Andrus and McEachern following a review of the literature on this subject and experiments producing hyperthyroidism in animals conclude that the most accurate, and certainly the most optimistic attitude, to look upon the heart in hyperthyroidism as suffering from its own accelerated metabolism and from the load thrown upon it by the metabolism of the body as a whole. From both of these burdens it can happily be relieved by relief of the hyperthyroidism.

(The Cardiac Manifestations of Hyperthyroidism: Andrus, E. Cowles & McEachern, Donald; The American Journal of the Medical Sciences: 183:741-748, June, 1931.)

KANSAS MEDICAL SOCIETY

Proceedings of the 74th Annual Meeting —Concluded

JOINT MEETING OF COUNTY SECRETARIES AND COUNCIL

The Seventh Annual Meeting of the county secretaries and council was held in the front dining room of the Chamber of Commerce, 727 Minnesota Avenue, Kansas City, Kansas, on Tuesday, May 3, 1932 at 12:15 p. m. The following were present: P. S. Mitchell, Iola; Geo. W. Davis, Ottawa; Walter Stephenson, Norton; Mac. F. Cahal, Wichita; R. M. Price, Wellington; R. T. Nichols, Hiawatha; E. H. Johnson, Peabody; J. A. Milligan, Garnett; W. F. Bernstorf, Pratt; L. O. Nordstrom, Salina; A. M. Lohrentz, McPherson; Paul E. Conrad, Hiawatha; Leon Matassarin, Leavenworth; H. E. Robbins, Belleville; J. E. Henshall, Osborne; C. Omer West, Kansas City; E. C. Duncan, Fredonia; O. P. Davis, Topeka; J. T. Axtell, Newton; J. F. Gsell, Wichita; L. B. Spake, Kansas City; C. C. Stillman, Morganville; Alfred O'Donnell, Ellsworth; H. O. Hardesty, Jennings; Ivan B. Parker, Hill City; C. H. Ewing, Larned, and J. F. Hassig, Kansas City.

Brief talks of unusual interest concerning the advantages of a well conducted county society were made by the following: P. S. Mitchell, E. C. Duncan, Mr. Mac. F. Cahal, O. P. Davis, L. O. Nordstrom, C. O. West, and Walter Stephenson.

Meeting adjourned.

MEETING OF THE HOUSE OF DELEGATES

Thursday, May 5, 1932

The House of Delegates met in the Auxiliary Room, second floor, Soldiers and Sailors Memorial Building at 8:30 a. m. Meeting was called to order by the vice president, Dr. J. D. Colt, Sr., owing to the temporary absence of the president.

The following officers were elected:

President-elect, Dr. J. D. Colt, Sr., Manhattan; vice president, Dr. J. F. Gsell, Wichita; secretary, Dr. J. F. Hassig, Kansas City; treasurer, Dr. Geo. M. Gray, Kansas City.

Councilors:

First District, Dr. R. T. Nichols, Hiawatha; Fourth District, Dr. O. P. Davis, Topeka; Fifth District, Dr. J. T. Axtell, Newton; Sixth District, Dr. H. N. Tihen, Wichita; Ninth District, Dr. H. O. Hardesty, Jennings; Eleventh District, Dr. C. H. Ewing, Larned.

STANDING OF COUNCIL

Dist.	Councilor	Term expires
1st	Dr. R. T. Nichols, Hiawatha	1933
2nd	Dr. L. B. Spake, Kansas City	1933
3rd	Dr. E. C. Duncan, Fredonia	1934
4th	Dr. O. P. Davis, Topeka	1935
5th	Dr. J. T. Axtell, Newton	1935
6th	Dr. H. N. Tihen, Wichita	1934
7th	Dr. C. C. Stillman, Morganville	1933
8th	Dr. Alfred O'Donnell, Ellsworth	1933
9th	Dr. H. O. Hardesty, Jennings	1935
10th	Dr. I. B. Parker, Hill City	1934
11th	Dr. C. H. Ewing, Larned	1935
12th	Dr. W. F. Fee, Meade	1934

Owing to the absence of Dr. Earle G. Brown at the House of Delegates meeting on May 3 the report of Committee on Medical History was not read until the second House of Delegates meeting on Thursday morning.

REPORT OF COMMITTEE ON MEDICAL HISTORY

House of Delegates, Kansas Medical Society:

In rendering a report at this time the committee would call attention to the fact that the album which contains photographs and short biographies of past presidents of the Kansas Medical Society has been kept up to date. We still hope to secure photographs of Dr. John Parsons, who was elected president in 1868 and Dr. H. K. Kennedy, who was elected president in 1875, but up to date have been unsuccessful in our efforts.

Mrs. W. E. McVey presented the Kansas Medical Society with the following volumes which were in Dr. McVey's library:

Transactions of the Kansas Medical Society, Volume one, 1866 to 1877, and Volume two, 1878 to 1888, inclusive and 1894-1900 inclusive.

Volumes one to ten inclusive of the Kansas Medical Journal from May 1889 to 1898.

These are valuable records and it is our recommendation the society should express its appreciation to Mrs. McVey through a letter from the secretay making fomal acknowledgment of the gift.

EARLE G. BROWN, M.D.

On motion regularly seconded and carried, the report was accepted and filed.

Dr. Earle G. Brown made a motion that the Secretary be instructed to write a letter to Mrs. W. E. McVey in appreciation of the records she presented to the Kansas Medical Society, which was regularly seconded and carried.

REPORT OF BUREAU OF PUBLIC RELATIONS

Financial statement of the Bureau of Public Relations of the Kansas Medical Society. Receipts and disbursements from May 1, 1931, to May 1, 1932.

RECEIPTS

Balance on hand May 1, 1931	$ 501.48
Sales and Subs. (Folks)	1,290.04
*Kansas Medical Society	1,827.60
Advertising for Folks	192.00
	$3,811.12
Accounts receivable	551.62
	$4,362.74

EXPENDITURES

Printing Folks	$1,163.40
Stock and stationery	405.00
Salaries and wages	1,333.00
Postage	356.74
Office rent	200.00
Electrotypes	197.68
Advertising	10.73
Drayage	4.25
Delivering Folks in Topeka	30.29
Stencils and filing trays	81.93
Table, desk and office supplies	68.00
	$3,851.02
Salary due Miss Carlson	120.00
Accounts payable	251.13
	$4,222.15
Balance	$ 140.59

*The original appropriation was $2,000.00 but $150.00 of this was used for six Chamber of Commerce memberships and $22.40 to defray railroad expenses of two of the Bureau Board members to meetings held in July and January. These items were paid by the Secretary or Treasurer.

L. G. Allen, M.D., Kansas City, Kansas; O .P. Davis, M.D., Topeka, Kansas; E. C. Duncan, M.D., Fredonia, Kansas; E. S. Edgerton, M.D., Wichita, Kansas; C. E. McCarty, M.D., Dodge City, Kansas; O. D. Walker, M.D., Salina, Kansas.

BUREAU REPORT

Folks magazine, an ideal medium for forming contact between the physician and layman, is only ten months old. In spite of a hard struggle the mailing list has reached the 5,967 mark with 22 delivered to newstands in hotels and drug stores, making the total distribution for May 5,989, as compared with 3,900 in January of this year.

With the added work that the magazine has made, it was necessary to employ additional help which increased our salary item. Office rent is $12.50 per month less because we have combined the two offices.

It is necessary for us to pay 2c postage on Folks in Topeka and in order to reduce this item we have secured the services of high school boys to deliver the magazines. By doing this we have managed to save $15.20 on our postage account to date.

The cost of printing Folks is considerably less, even with our increased circulation, because of the new contract made with our printer last March. His figure is much less than that quoted by other printing establishments in Topeka.

August	$153.00
September	110.00
October	194.75
November	167.40
December	142.00
January	142.00
February	129.75
March	124.50
April	172.50

Electrotypes are a very expensive proposition but an enormous amount has been saved due to the fact that the State Board of Health and friends who are interested in the success of Folks have donated cuts for the cover and the children's page. We have a small supply of cuts on hand at this time which we were able to purchase at reduced prices.

The stock expense is an item worth considering. This could be reduced a great deal if it were not for the fact that the magazine is mailed in envelopes. They could be mailed in a wrapper, or without any covering but no doubt the magazine would not be delivered in very good condition.

The editor of Folks received no compensation whatever for his work; the editor of the children's page received no compensation for the work and time required for this department—in fact everything in the magazine is donated with the exception of the advertisements.

One of the largest expense items connected with Folks is the mailing list. Stencils and filing cabinets have had to be purchased for this purpose.

Earle G. Brown, Editor.

A motion was made by Dr. J. F. Gsell, which was regularly seconded and carried that the reports be accepted as read.

Dr. O. P. Davis made a motion that the sum of $2,000.00 or a part thereof as may be required, in portions of $500.00 be appropriated to the use of the Bureau of Public Relations and that no transaction be made for any other purpose for the coming year and all checks shall be issued through the Bureau office. After a great deal of discussion the motion was regularly seconded and carried.

After much discussion relative to the proposed Student Loan Fund, Dr. O. P. Davis made a motion that the House of Delegates approve the principle of the Student Loan Fund and authorize the Council to formulate plans for working out and applying this principle at an early date, which was regularly seconded and carried.

Dr. C. C. Stillman presented the following report for his Committee concerning a full time lay secretary:

Your Committee recommends that a committee of five, not members of the Council, be appointed to study plans as to the cost and practicability of employing a full time Secretary or Business Manager and to report to a meeting of the Council to be held during the Fall Clinics at Kansas City. Such a meeting of the Council and Committee is to be without cost to the Kansas Medical Society. The plan selected by the Council and Committee will be presented to the House of Delegates next year for their consideration.

We find nothing in the Constitution and By-Laws that would prohibit the adoption of the program outlined.

DR. E. C. DUNCAN,
DR. L. F. BARNEY,
DR. C. C. STILLMAN.

The report was adopted as read.

Dr. B. A. Nelson made a motion that the chair appoint Dr. J. F. Gsell as Chairman of the above Committee, which was regularly seconded and carried. Dr. Mitchell appointed the following Committee: Dr. J. F. Gsell, Dr. C. C .Nesselrode, Dr. Walter Stephenson, Dr. A. R. Chambers and Dr. Milton B. Miller.

The following amendment to the Constitution which was proposed at the House of Delegates in 1931 was resubmitted and carried, that Article 7, Part 3—after the word, "Treasurer" insert the words "all ex-Presidents."

Meeting adjourned at 10:40 a. m.

COUNCIL MEETING

The newly organized Council met May 5 at 11:00 a. m. in the Auxiliary Room of the Soldiers and Sailors Memorial Building. The meeting was called to order by the president, Dr. P. S. Mitchell.

By unanimous vote the meeting place for 1933 annual meeting was decided to be held at Lawrence and to be a three-day session. The dates of the meeting were left to the decision of the Secretary.

A motion was made by Dr. C. C. Stillman, which was regularly seconded and carried, that Dr. O. P. Davis be re-elected on the Defense Board.

Standing of Defense Board

Dr. W. F. Fee, term expires 1933.
Dr. C. C. Stillman, term expires 1934.
Dr. O. P. Davis, term expires 1935.

Secretary's Expense Account

Stenographer's salary	$ 300.00
Stamps	78.77
Long distance calls and telegrams	7.15
Miscellaneous	16.90
Secretary's salary for past year, 5/1/31 to 5/1/32	1,000.00
	$1,402.82

REPORT OF JOURNAL OF KANSAS MEDICAL SOCIETY

Financial Statement

RECEIPTS

Journal advertising	$4,239.66	
Sales and subscriptions	312.56	
Kansas Medical Society	2,000.00	
Other sources	12.48	
	$6,564.70	

EXPENDITURES

Journal printing	$2,539.25	
Stock and stationery	833.55	
Salaries and wages	2,364.00	
Postage	153.77	
Electrotypes	78.40	
Office rent	225.00	
Drayage	7.75	
Telephone	62.93	
Insurance	9.74	
A. M. A. directory	12.00	
Office equipment and supplies	50.82	
	$6,337.21	
Salary due Dr. Brown	500.00	
Salary due Miss Carlson	90.00	
Deficit May 1, 1931	218.83	
	$7,146.04	
Total deficit May 1, 1932		$581.34
Bills payable	61.50	
	$7,207.54	

Receipts	$6,564.70	
Bills receivable	656.00	
	$7,220.70	
Balance		$ 13.15

Comparative statement of the Journal of the Kansas Medical Society for the years 1931-1932.

RECEIPTS

	1931	1932	More	Less
Journal advertising	$4,387.98	$4,239.66		$148.32
Sales and subscriptions	347.46	312.56		34.90
Kansas Medical Society	2,000.00	2,000.00		
Other sources	20.00	12.48		7.52
	$6,755.44	$6,564.70		$190.74

EXPENDITURES

Journal printing	$2,628.50	$2,539.25		$ 89.25
Stationery and stock	845.05	833.55		11.50
Salaries and wages	2,780.00	2,945.00	$174.00	
Postage	201.29	153.77		47.52
Electrotypes	144.96	78.40		66.56
Office rent	300.00	225.00		75.00
Telephone and telegraph	4.90	62.93	58.03	
Drayage	2.75	7.75	5.00	
Insurance		9.74	9.74	
A. M. A. directory	12.00	12.00		
Lancet subscription	12.00			12.00
Office sup. and equip.	42.82	50.82	8.00	
	$6,974.47	$6,927.21	$254.77	$301.83

This report shows that the total Journal expenditures for 1932 are $47.06 less than in 1931.

The office of the Journal of the Kansas Medical Society is operated on a very economical basis. In fact, there is need for equipment at this time that is essential for efficiency and comfort in any office.

The attached statement is very interesting from a comparative standpoint. It is noted that the amount of our advertising receipts, sales and subscriptions and other sources, is $190.74 less than in 1931. This is due to the difficulty we are having in retaining our old advertisers and in securing new accounts. Several large manufacturers, sanitariums and hospitals have discontinued their advertisements temporarily. However, we are encouraged at the present time because new accounts have been received. The General Baking Company are using a one-half page advertisement; The National Drug Company have ordered a page advertisement, every other month, beginning with the May number; The S. M. A. Corporation have increased their advertisement from a quarter page to a half page, and E. R. Squibb and Sons are continuing their advertisement of one page a month, preferred space. This is interesting due to the fact that they had ordered us to change their advertisement to one page every other month for the year 1932.

The Journal printing, stock and stationery are less. We have a new contract with our printer, obtained in March, 1932, which will reduce this item very much, if we can keep our mailing list up to standard and near the 1800 mark. The following list will show what has been accomplished in this respect during the year from May 1, 1931, to May 1, 1932.

May	$212.00
June	223.00
July	213.00
August	222.00
September	213.50
October	222.00
November	213.50
December	217.00
January	217.00
February	201.25
March	192.00
April	192.00

Our salary item is more because it was imperative that we have more help in the office. Our postage and electrotypes are considerably less than in 1931. Our rent is $75.00 less due to the fact that we crowded the Bureau and Journal equipment into one room last fall to reduce expenses as much as possible. This brings our rent item down to $12.50 per month in place of $25.00 as was previously paid.

The Journal has never had a telephone item before as it was listed under Dr. McVey's name and paid by him. Our drayage bill is more and this is due to the fact that in order to reduce the cost of mailing expense in connection with the Journal it has been mailed from this office in place of the printers. This naturally necessitates a drayage item—hauling magazine from our office to the post office.

It became necessary last fall to insure the office fixtures and this accounts for an insurance item, formerly paid by Dr. McVey. Our office expenses are more because it was necessary to purchase another typewriter. A re-built one was purchased at the lowest possible price.

The total expenses for the Journal from May 1, 1931, to May 1, 1932, was $47.06 less than the previous year.

EARLE G. BROWN, Editor.

A motion was made that the report be accepted which was regularly seconded and carried.

Dr. Geo. M. Gray made a motion that the Student Loan Fund be referred to a committee of three and that Dr. O. P. Davis and Dr. J. F. Hassig be made members of this committee to work this matter out and report to the mid-winter meeting of the Council, which was regularly seconded and carried. Dr. Geo. M. Gray was named by the president as the third member.

Meeting adjourned.

GENERAL SESSION

The Scientific Session convened at 10 a. m. in Trembley Hall, third floor of the Soldiers and Sailors Memorial Building on May 3, 1932, to listen to the previously announced papers and to the discussions as presented in the official program by members and guests of the Society.

J. F. HASSIG, M.D., Secretary.

—R—

COUNTY SOCIETY NEWS

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society met in the Tankersly Hotel Coffee Shop on June 7, 1932, at 7:15 p. m. The physicians of Clay Center entertained the society and a number of guests with a banquet dinner.

At 8:00 p. m. the meeting was called to order by President Carr. The business session was dispensed with in order to give more time to the guest speaker. The meeting was conducted in an unusual fashion, in that during the meal a slip of paper was handed each physician present and it was his privilege to ask one question in the field of medicine or surgery.

Dr. Arthur E. Hertzler, guest speaker of the evening, was presented to the society and the following questions read by the secretary: 1. Discuss abdominal drainage; kind of drains to be used; when to drain and when not to drain. 2. Give a brief discussion of when to drain gall-bladders and when to remove them. 3. Give a clinical classification of goiter and treatment with special reference to iodine therapy. 4. Discuss the treatment of sacro-iliac strain. 5. When should a typhoid periostitis be operated. 6. Three case histories were read seeking therapy.

Dr. Hertzler's replies were brief, complete, instructive and injected with comedy.

Following the discussion, Dr. Stillman made a motion Dr. Hertzler be made an honorary member of the society, seconded by Dr. Lewis, motion carried.

Motion by Dr. Stillman that the physicians living out of the city give a vote of thanks to the Clay Center physicians, seconded by Dr. Need, motion carried.

Dr. Spessard of Beloit thanked the society for a very entertaining and instructive evening.

In view of the fact we missed a meeting in March, it was suggested we ask Dr. Wahl to talk to us on June 29, 1932, on his way to Beloit. Dr. Carr put question to vote, which carried. Secretary instructed to make necessary arrangements.

Twenty-nine visitors and 19 members were present. Meeting adjourned at 10 p. m.

A special meeting of the Clay County Medical Society was held June 29, 1932, in the Sun Room of the Clay Center City Hospital at 8:00 p. m. The meeting was called to order by President Carr who presented Dr. W. R. Dillingham of Salina, president of the Golden Belt Society.

An invitation was extended to the Clay County Society and all visitors to be present at the next Golden Belt meeting, Thursday, July 7, 1932, to be held at Tescott, Kansas, with Dr. C. D. Vermillion as host.

Dr. Dillingham stated that the Saline County Medical Society was in favor of the following:

1. That a "full-time" lay secretary be appointed for the Kansas Medical Society.

2. That when the last increase in state dues was put into effect we were assured that the purpose was to build up the Defense Fund of the Society. We feel that this fund as raised can not now be legally or morally used for any other purpose than to provide defense against mal-

practice. We are opposed to using any part of the fund to provide "Student Loans" because such loans can not be considered assets; the common experience being that they are all too often never repaid. Instead of making "Student Loans" we favor increasing the safeguards about the Defense Fund and carefully conserving it and that the state dues be again placed at $5.00 per year.

3. That the magazine "Folks" is of very little value to the public or the profession. It is seldom read by anybody. It is therefore proposed that unless it can be proven that the magazine is self-supporting it should be discontinued. We oppose again turning over to the editor $2,000 from the general fund of the society to continue the publication.

4. That the Crippled Children's Law of the State is not in the best interest of the crippled child or the profession of the State of Kansas.

A short discussion was made by Dr. C. C. Stillman but no action was taken.

A letter signed by Kate Reynolds Coston was read to the society thanking them for the flowers sent as a token of friendship and sympathy at the time Mrs. Reynolds was called to her reward. The order members of the society will recall Mrs. Coston as the daughter of the sainted Dr. S. A. Reynolds formerly of Clay Center.

A letter was read to the society notifying them Dr. A. L. Lemon's name has been officially added to the roster of the Clay County Medical Society.

A letter signed by Dr. Earle G. Brown, editor of "Folks" magazine, was read to the society. No action taken.

A letter from Homer F. Sanger of the American Medical Association, Councillor on Medical Education and Hospitals, was read to the society requesting information in regard to the Clay Center City Hospital. Dr. Stillman made a motion that the secretary notify Mr. Sanger: "The Clay Center City Hospital is still in existence—bed capacity, 35—is a city organization run by a board consisting of three trustees elected by the people and that the hospital has excellent standing in the community with the support of the entire personnel of the medical profession contiguous to Clay Center." Motion seconded by Dr. Morgan, carried.

A letter signed by Loring A. Schuler, editor of the Ladies' Home Journal, was read to the society requesting that the Clay County Medical Society pass resolutions to the effect that it regards mortality cases of mothers due to childbed fever as being definitely preventable, and in the interest of public health that it urges prospective child-bearing mothers to seek only the care of able physicians. A motion by Dr. Stillman seconded by Dr. R. J. Morton that the secretary be instructed to write the following to Mr. Schuler:

"The Clay County Medical Society is in hearty accord with standards already accepted and published through the Journal of the American Medical Association and which are undoubtedly at the disposal of the Ladies' Home Journal."

A letter from the Sedgwick County Medical Society, signed by Mac F. Cahal, Executive Secretary, was read, stating the members of the Sedgwick County Medical Society have made a study of the present situation and have arrived at the conclusion that the law as it now stands is not for the best interests of the crippled children, taxpayers, or the physicians of Kansas. A general conclusion has been reached that this law is a strong movement toward the evils of state medicine. Dr. Carr suggested that this letter be shelved for further consideration.

The minutes of the two preceding meetings were then read and approved.

Dr. H. R. Wahl, dean of the University of Kansas Medical School was then introduced to the society and gave an excellent lecture on "Recent Advances in Some Common Diseases." Dr. Wahl discussed the pathological physiology of pernicious anemia, pneumonia, rheumatic fever and tuberculosis. His lecture was illustrated by lantern slides and pathological specimens. The members present were all in hearty accord that the lecture was extremely interesting and instructive. The lecture was discussed by the following doctors: Need, Dixon, Carr and Schaeffer.

Dr. R. J. Morton made a motion that Dr. Wahl be elected to honorary membership, seconded by Dr. Croson. Motion carried.

Dr. Carr thanked Dr. Wahl in behalf of the society for his very interesting lecture and announced that the next medical meeting will be held in September.

There were fifteen members and twelve visitors present. On motion meeting adjourned at 10:00 p. m.

J. Leonard Dixon, M.D., Secretary.

MARSHALL COUNTY MEDICAL SOCIETY

The Marshall County Medical Society met at Marysville on July 7. The following resolution was adopted:

"In view of the economic situation the Marshall County Medical Society does not feel that it can accept the Crippled Children's Clinic at this time."

The society also brought up for discussion the practice of patients who are able to pay of going to Bell Memorial Hospital, themselves paying the hospital fee and escaping a surgical fee. The secretary was directed to write the dean of the Medical School.

J. W. Randell, M.D., Secretary.

FRANKLIN COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Franklin County Medical Society, was held in Osawatomie at the State Hospital June 29, 1932.

The members of the society were guests of Dr. F. A. Carmichael and his staff at a banquet at 6:30 p. m., after which the program in charge of Drs. Eugene L. Aten and Paul E. Davis was presented.

Dr. John A. Dyer presided over the meeting in the absence of the president, Dr. John B. Davis.

The society at this meeting voted to honor a former member, Dr. J. R. Scott, now living in Alamo, Texas, by making him an honorary member.

The following program was presented:

Dr. Eugene L. Aten. Discussion of the Latest Treatment of Paresis, with presentation of cases.

Dr. R. W. Robb of the State Hospital staff. "Signs and Symptoms of Dementia Praecox."

Dr. S. D. E. Woods of the State Hospital staff. "Discussion of Manic Depressive Psychosis and Psycho-Neurotics," with presentation of cases.

Dr. F. A. Carmichael, Superintendent of the State Hospital, gave a discussion of "Mental Hygiene."

Dr. Earle G. Brown, Secretary of the State Board of Health, read a paper on "Undulant Fever."

Dr. R. L. Bower, of Kansas City, Mo., gave a discussion illustrated with lantern slides, on "Massive Atelectasis."

Moving picture films on "The Effects of Sodium Amytal on Manic Depressive Patients," were shown illustrating research work done by Dr. R. W. Robb.

A few remarks were made by Dr. John Sheldon of Kansas City, Mo., after which the meeting was adjourned.

J. F. Barr, M.D., Secretary.

PAWNEE COUNTY MEDICAL SOCIETY

The Pawnee County Medical Society met in regular session May 31, 1932, at 7:30 p. m. The meeting was held at the Larned State Hospital on invitation of Dr. J. A. Dillon, superintendent, and a special program had been arranged by Dr. Frank B. Fuson, president of the society. The attendance was one of the greatest in number in the history of the Pawnee County Medical Society. The doctors met at the institution early before the hour set for convening the meeting, spending an hour visiting the new 200-bed hospital which had been completed recently. The hospital is equipped with kitchen, dining room, a modern operating room, *x*-ray department, diathermy, hydrotherapy and laboratory.

Following the tour through the hospital, supper was served to the members and invited guests, after which the meeting was called to order.

First, an address of welcome was made by Dr. Dillon.

Second, spinal anesthesia was demonstrated on the screen by moving pictures. This presentation was very instructive and free from any advertising feature.

Third, Dr. Conwell of Halstead gave

an interesting address on Neurological Syndromes, including the Babinski, Parkinsonian and Brown-Sequard Syndromes. Cases of tabes dorsalis, Huntington's chorea and paralysis agitans were presented with instructive remarks by Dr. Conwell covering each case.

The following were in attendance: Doctors Frank B. Fuson, Clyde D. Blake, N. W. Robison, L. R. McGill, E. C. Button, R. J. Wheeler, Milton Morrow, J. E. Attwood, F. E. Dargatz, Mary H. Elliott, T. J. Brown, Carl W. Zugg, E. E. Morrison, G. O. Speirs, LeRoy Shepard, T. F. Brenman, M. F. Russell, Justin A. Blount, A. E. Reed, C. E. Sheppard, H. C. Embry, D. V. Conwell, J. A. Dillon, C. H. Ewing and P. Shinneman, D.D.S.

MARY H. ELLIOTT, M.D., Sec'y.

—R—

PHYSICIANS LICENSED IN JUNE

The Board of Medical Registration and Examination through the secretary, Dr. C. H. Ewing of Larned, reports licenses were granted to 92 physicians at the annual meeting held in Kansas City, June 21 and 22, 1932. Seventy were licensed by examination and 22 by reciprocity. One application for reciprocity was denied, while a second was held for further consideration at the December meeting. The certificate of Rafael Rivera who passed the examination was held pending the status of his citizenship.

Certificates were granted by examination to: Arthur Lawrence Ashmore, Donald Andrew Anderson, William Abrams, Chas. Clifton Andrews, Amil Carl Bach, Fred Stauffer Brenneman, William Brown, David Walker Basham, Henry Millard Benning, Emery Clarence Bryan, Brian Brewer Blades, Edward Bruce Badger, Andrew Porter Brown, James Oren Boley, Robert Henery Brown, Frederick Max Cluff, Marshall E. Christmann, Lucille Carman, Edson Crane Carrier, Porter M. Clark, Jr., Marlin Winthrop Carlson, Knox Dunlap, Willard Floyd Daniels, Leslie Fay Eaton, Guy Leo Earl, Farris DeVol Evans, Harry Edward Erni, Chas. Herman Finney, Garrison Albert Frost, James Bernard Foley, Harold Vandiver Ford, Leland Forrest Glaser, Geo. Freeman Helwig, Otto Joseph Hartig, Leslie Claire Hays, Willard Dennis Holt, Lester Ellsworth Ketner, Virgil Newton Kennedy, Austin Montgomery Long, Sylva Young Lofgreen, Victor Josiah Lofgreen, Charles Henry Miller, Werner Walter Mall, Jocelyn Elizabeth Mitchell, Noah Richard Miller, Ray Meidinger, Chas. Alexander McBurney, Donald Claude Malcolm, Roy Hector Moser, William Harold McCain, Geo. Chester Meek, James Allen McNalley, Zachariah Miles Nason, Gustave Asarie Roy, Rafael Rivera, Chas. Abraham Royer, Chas. Wesley Reed, William Paul Stanton, Harry Beach Stauffer, Arthur Blaine Richeson Smith, Lawrence Francis Steffen, Frank Elbert Tolle, David Paul Trimble, Clayton J. Traylor, Chas. Clinton Underwood, Daniel Russell Wilson, Walter Weisenborn, Jesse Wilbur Young, M. Wharton Young and Harold Victor Zuber.

Forty-five of the seventy physicians were graduates of the University of Kansas Medical School.

Those licensed by reciprocity included:

David Ritchey Braden, Kansas City, Mo. (Missouri).

Wyrth Post Baker, Washington, D. C. (Delaware).

Ernest Albert Creighton, Red Cloud, Neb. (Nebraska).

Mary Alice Townsend DeMotte, Buffalo, N. Y. (Missouri).

Harry Alfred Gerber, National Military Home, Kansas (Wisconsin).

Lawrence William Gregory, Waseca, Minn. (Wisconsin).

Kenneth Raymond Grigsby, Medicine Lodge, Kan. (Illinois).

Lewis Joseph Hammers, Goodland, Kan. (Illinois).

Basiel O. Hartwell, Drexel, Mo. (Illinois).

Claud Everett Hardin, Oswego, Kan. (California).

Fred Rife Isaacs, Lawrence, Kan. (Illinois).

Waldo Nathaniel Lemmon, Liberal, Kan. (Texas).

Frank Lionel Menehan, Philadelphia, Pa. (Illinois).

John William Mintener, Topeka, Kan. (Minnesota).

Geo. Theodore O. Bryne, Goodland, Kan. (Colorado).

Raymond Joseph Portman, Hiawatha, Kan. (Wisconsin).

Hale Burger Salvin, Beloit, Kan. (Iowa).

Allen Leo Spafford, Kansas City, Mo. (Missouri).

Cecil Dawson Snyder, Winfield, Kan. (National Board of Medical Examiners).

Alfred Linwood Seal, Lawrence, Kan. (Louisiana).

John Carroll Wiggins, Winston-Salem, N. C. (North Carolina).

James Elisha Wallen, Ottawa, Kan. (Illinois).

Glenn Hillis Yeary, Arma, Kan. (Oklahoma).

DEATH NOTICES

George E. Bush, Geneseo, aged 67, died June 21, 1932, at the Ellsworth Hospital, of diabetes and strangulated ventral hernia. He graduated from College of Physicians and Surgeons, Baltimore, Maryland, in 1888. He was a member of the Society.

Hunter J. Duvall, Hutchinson, aged 65, died June 27, 1932, of carcinoma of the prostate gland. He graduated from Kansas City Medical College, Missouri, in 1894. He was a member of the Society.

Jacob J. Entz, Norton, aged 69, died June 29, 1932, in Sedgwick County, of chronic nephritis. He graduated from Bennett Medical College, Chicago, in 1886. He was not a member of the Society.

Joseph J. Growney, Kansas City, aged 64, died June 4, 1932, of carcinoma of the breast. He graduated from Central Medical College of St. Joseph, Missouri, in 1897. He was a member of the Society.

James W. Hempstid, Burrton, aged 71, died May 28, 1932, of myocarditis. He graduated from National University of Arts and Sciences Medical Department, St. Louis, in 1885. He was not a member of the Society.

John B. Rees, Mapleton, aged 84, died May 3, 1932, of diabetes. He graduated from College of Physicians and Surgeons, Keokuk, Iowa, in 1891. He was not a member of the Society.

Charles I. Welsh, Clyde, aged 73, died June 22, 1932, of diabetes. He graduated from Bennett Medical College, Chicago, in 1894. He was not a member of the Society.

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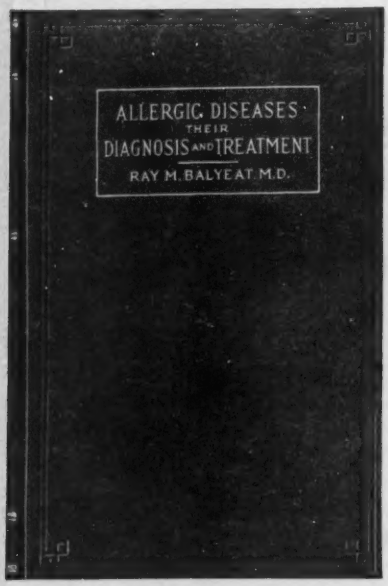

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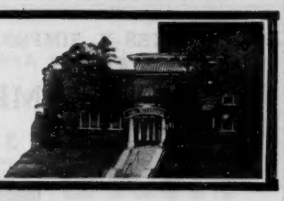

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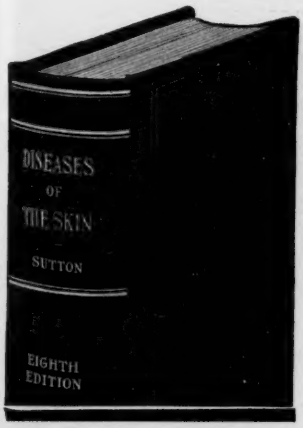

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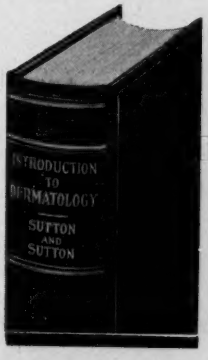

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